Fiction—Illustrated Features—6 Popular Departments

RAILROAD STORIES

FEBRUARY

15¢

CLEAR IRON

by Charles W. Tyler

Novelette by

E. S. Dellinger

AVALANCHE

to fight colds and sore throat

use the Safe antiseptic with the LASTING EFFECT

Germs reduced as much as 64% even at the end of 4 hours

When health is concerned, choose your mouth wash carefully.

You can't expect to fight infections of the mouth and throat, such as colds and sore throat, unless your mouth wash has an immediate and lasting effect.

Here is why Listerine is favored by doctors, nurses, and the public:

The moment it enters the mouth, it kills millions of germs.

Within 5 minutes, bacteria reductions as high as 99% have been shown.

And 4 hours after the gargle, tests have revealed germ reductions as high as 64%.

That is lasting germicidal effect, indeed, and helps to explain Listerine's effectiveness in checking the advance of colds.

In connection with this, medically supervised experiments have shown that those who gargled with Listerine twice a day contracted fewer colds than non-users. Three times a day gargling showed even better results.

Make a habit of gargling with Listerine every morning and night.

It makes your mouth feel delightfully fresh and clean—sweeps over the teeth, gums, mouth and throat surfaces killing and removing bacteria that lead to serious infections.

At the first symptom of a cold, increase the frequency of the gargle to once every three hours. Listerine not only helps to ward off colds, but even checks their progress.

For best results, use only Listerine. It is free from the dangers and uncertainties of antiseptics so harsh they must be diluted. Lambert Pharmacal Company, St. Louis, Missouri.

THE SAFE ANTISEPTIC

LISTERINE

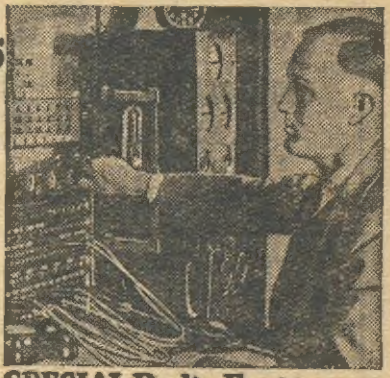
lasting germicidal effect
lasting deodorant effect

NRA

AT NEW LOW PRICES

I'll Send My First Lesson *FREE*

It Shows How Easy it is to Learn at Home *to fill a* GOOD JOB in Radio



Here's Proof

Clip the coupon and mail it. I'm so sure that I can train you at home in your spare time for a good job in Radio that I'll send you my first lesson free. Examine it, read it, see how clear and easy it is to understand. Then you will know why many men with less than a grammar school education and no technical experience have become Radio Experts and are earning two to three times their former pay as a result of my training.

Many Radio Experts Make $40, $60, $75 a Week

In less than 15 years, the Radio Industry has grown from a few million to hundreds of millions of dollars. Over 300,000 jobs have been created by this growth, and thousands more will be created by its continued development. Many men and young men with the right training—the kind of training I give you in the N. R. I. Course—have stepped into Radio at two and three times their former salaries.

Get Ready Now for Jobs Like These

Broadcasting stations use engineers, operators, station managers and pay up to $5,000 a year. Manufacturers continually employ testers, inspectors, foremen, engineers, servicemen, buyers, for jobs paying up to $7,500 a year. Radio operators on ships enjoy life, see the world, with board and lodging free, and get good pay besides. Dealers and jobbers employ servicemen, salesmen, buyers, managers, and pay up to $100 a week. My book tells you about these and many other interesting Radio jobs.

Many Make $5, $10, $15 a Week Extra in Spare Time Almost at Once

The day you enroll with me, I send you instructions which you should master quickly for doing 28 Radio jobs common in most every neighborhood, for spare-time money. Throughout your training, I send you information for servicing popular makes of sets! I give you the plans and ideas that have made $200 to $1,000 a year for N. R. I. men in their spare time. My Course is famous as the Course that pays for itself!

Television, Short Wave, Loud Speaker Systems Included

There's opportunity for you in Radio. Its future is certain. Television, short wave, loud speaker systems, police Radio, automobile Radio, aircraft Radio—in every branch, developments and improvements are taking place. Here is a real future for thousands and thousands of men who really know Radio—men with N. R. I. training. Get the training that opens the road to good pay and success.

You Get a Money-Back Agreement

I am so sure that N. R. I. can train you satisfactorily that I will agree in writing to refund every penny of your tuition if you are not satisfied with my Lessons and Instruction Service upon completion.

FREE 64-page Book of Facts

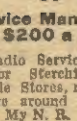
Mail the coupon now. In addition to the sample lesson, I send my book, "Rich Rewards in Radio." It tells you about the opportunities in Radio; tells you about my Course, what others who have taken it are doing and making. This offer is free to any ambitious fellow over 15 years old. Find out what Radio offers you without the slightest obligation. ACT NOW!

J. E. SMITH, President
National Radio Institute, Dept. 4BK, Washington, D. C.

Service Manager Earns $200 a Month

"As Radio Service Manager for Sterchi's four Nashville Stores, my earnings are around $200 a month. My N. R. I. training enables me to keep our customers satisfied."

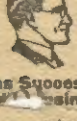
E. H. LEFTWICH,
Sterchi Bros. Stores, Inc.
Nashville, Tenn.



Runs Successful Radio Business

"I am a member of the firm of South Grand Radio and Appliance Co., which runs a very successful business. The greater part of my success I owe to N. R. I. Without your training, I could never have been successful in Radio."

J. A. VAUGHN,
Grand Radio & App. Co.
2107 S. Grand Blvd.
St. Louis, Mo.



Does Radio Work in Spare Time

"I am operating a 120-acre farm. Three nights a week I teach a Radio class. On the other nights I make service calls. Words cannot express my gratitude to N. R. I. Your training prepared me to earn nice sums of cash in spare time."

HOYT MOORE,
R. R. 3, Box 919,
Indianapolis, Ind.

SPECIAL Radio Equipment for Broad Practical Experience *Given Without Extra Charge*

My Course is not all theory. I'll show you how to use my special Radio Equipment for conducting experiments and building circuits which illustrate important principles used in such well-known sets as Westinghouse, General Electric, Philco, R. C. A., Victor, Majestic and others. You work out with your own hands many of the things you read in our lesson books. This 50-50 method of training makes learning at home easy, interesting, fascinating, intensely practical. You learn how sets work, why they work, how to make them work when they are out of order. Training like this shows up in your pay envelope—when you graduate you have had training and experience—you're not simply looking for a job where you can get experience.

With N.R.I. equipment you learn to build and thoroughly understand set testing equipment—you can use N.R.I. equipment in your spare-time service work for extra money.

I have doubled and tripled the salaries of many. Find out about this tested way to *BIGGER PAY*

Free Lesson Test

FILL OUT AND MAIL THIS COUPON TODAY

J. E. SMITH, President
National Radio Institute, Dept. 4BK,
Washington, D. C.

I want to take advantage of your offer. Without obligating me, send me your Free Sample Lesson and your book, "Rich Rewards in Radio." *(Please print plainly.)*

NAME .....

ADDRESS .....

CITY ..... STATE ..... "R"

The Famous Course That Pays For Itself

15c a Copy

RAILROAD STORIES

$1.50 a Year

FEBRUARY, 1934

Vol. XIII, No. 3

Formerly RAILROAD MAN'S MAGAZINE—*Title Registered in U. S. Patent Office*

FICTION AND TRUE TALES

Avalanche (Complete Novelette) ..... E. S. Dellinger 6
Clear Iron ..... Charles W. Tyler 52
Phantom Orders ..... Griff Crawford 66
Ordeal of Fire (True Tale) ..... E. Frank McKenzie 90
The 999 Meets the 666 (True Tale) ..... W. Scott Thomas 92
The Mail Crashes Through (True Tale) ..... W. E. Williamson 94
Reefers (Complete Novelette) ..... John A. Thompson 106

ILLUSTRATED FEATURES

Two Rival Engine Builders ..... Charles E. Fisher 38
Setouts and Pickups ..... W. F. Knapke 46
The Beverly Curve (Poem) ..... Ty Price 64
How to Build a Model Diamond-Stack Engine. Alfred D. Slater 96
Famous Engineers (Matt H. Shay) ..... Stookie Allen 105
Locomotives of the Soo Line 130

SIX POPULAR DEPARTMENTS

The Sunny Side of the Track 82
By the Light of the Lantern 83
Model Railroading 103
The Boomers' Corner 129
On the Spot 133
International Engine Picture Club 140

THE FRANK A. MUNSEY COMPANY, Publisher, 280 Broadway, New York City

WILLIAM T. DEWART, President — R. H. TITHERINGTON, Secretary

MESSAGERIES HACHETTE
3, La Belle Sauvage, Ludgate Hill, London, E.C.4

PARIS: HACHETTE & CIE.
111 Rue Réaumur

Published every month and copyright, 1934, by The Frank A. Munsey Company. Single copy, 15 cents in United States; 20 cents in Canada. By the year, $1.50 in United States, its dependencies, Mexico, and Cuba; Canada, $2.00. Other countries, $3.00. Remittances should be made by check, express money order or postal money order. Currency should not be sent unless registered. Entered at the post office, New York, N. Y., as second class matter November 15, 1928, under the Act of March 3, 1879. Entire contents protected by copyright; must not be reprinted without publishers' permission. Copyrighted also in Great Britain.

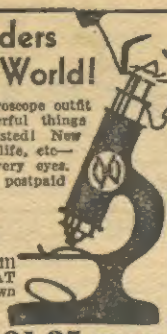
Manuscripts submitted to this magazine should be accompanied by sufficient postage for their return if found unavailable. The publisher can accept no responsibility for return of unsolicited manuscripts.

See the Wonders of an Invisible World!

With the use of this microscope outfit you can see many wonderful things you never even thought existed! New discoveries in food, plant life, etc—new worlds before your very eyes. This set will be sent you postpaid for $1.25 and

Special Offer

for an additional 25c. we will send you a POP-POP BOAT that works under its own power—send us your order today—satisfaction guaranteed. Send money order to



SET CONSISTS

Insect Dissector
Glass Slides
Specimen Jar
Microscope with powerful lense
Permanent Specimen Slide Covers
Lense Cleaning Tissue
Liquid Dropper
Tweezers

$1.25 COMPLETE

Z and Z Novelties, 1675 Southern Blvd., N. Y. C.

WONDERFUL NEW INVENTION

SOLDERING IRON AND BLOW TORCH IN ONE

Pays for itself in one job! Needs no pump or pressure system—no stove—no charcoal—no separate blow torch. Burns an hour at less than ¼ cent for gasoline.

AGENTS' OFFER

Write for Special Offer to agents. The Justrite is an ideal proposition for either main line or side line—full time or spare time.

JUSTRITE MFG. CO.,
2042 Southport Avenue, Chicago, Ill.

U.S. GOVERNMENT JOBS

$1260 to $3300 YEAR

Men—Women—18 to 50

STEADY WORK

Paid Vacations

Common Education usually sufficient

Mail Coupon today—SURE

Franklin Institute
Dept. T286, Rochester, N. Y.

Gentlemen: Rush to me FREE of charge, list of U. S. Government big pay jobs. Send me FREE 32-page book describing salaries, hours, work, vacation and giving full particulars on how to get a job.

Name .....

Address .....

Sells two more stories

"Perhaps you will be interested to learn that I have just sold two more stories. One of these was to The Blue Book, and the other was sold to True Detective Mysteries. I feel quite encouraged, for I consider both these magazines a step in advance of the ones I have sold to formerly."—DARRELL E. JORDAN, P. O. Box 277, Friendship, N. Y.

What makes WRITING ability GROW?

For a number of years, the Newspaper Institute of America has been giving free Writing Aptitude Tests to men and women with literary ambitions.

Sometimes it seems half the people in America who are fired with the desire to write have taken advantage of this offer to measure their ability.

What the tests show

Up to date, no one that could be called a "born writer" has filled out our Writing Aptitude Test. We have not yet discovered a single individual miraculously endowed by nature with *all* the qualities that go to make up a successful author.

One aspirant has interesting ideas—and a dull, uninteresting style. Another has great creative imagination but is wofully weak on structure and technique. A third has a natural knack for stringing words together—yet lacks judgment and knowledge of human behavior. In each case, success can come only after the *missing links* have been forged in.

Here, then, is the principal reason why so many promising writers fail to go ahead. Their talent is one-sided—incomplete. It needs rounding out.

Learn to write by writing

NEWSPAPER Institute training is based on journalism—continuous writing—the sort of training that turns out more successful writers than any other experience. Newspaper-trained writers are numbered not by dozens but by hundreds.

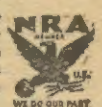
One advantage of our New York Copy-Desk Method is that it starts you writing and keeps you writing in your own home, on your own time. Week by week, you receive actual assignments, just as if you were right at work on a great metropolitan daily.

All your writing is individually corrected and criticized by veteran New York newspaper men—editors who have had years of experience "breaking in" new writers. They will point out those faults of style, structure or viewpoint that keep you from progressing. At the same time, they will give you constructive suggestions for *building up* and developing your natural aptitudes.

In fact, so stimulating is this association that student members often begin to sell their work *before* they finish the course. We do not mean to insinuate that they skyrocket into the "big money," or become prominent overnight. Most beginnings are with earnings of $25, $50, $100, or more, for material that takes little time to write—stories, articles on business, fads, travels, sports, recipes, etc.—things that can easily be turned out in leisure hours, and often on the impulse of the moment.

For those who want to know

If you really *want* to know the truth about your writing ambitions, send for our interesting Writing Aptitude Test. This searching test of your native abilities is free—entirely without obligation. Fill in and send the coupon. Newspaper Institute of America, 1776 Broadway, New York.



Newspaper Institute of America 99434
1776 Broadway, New York

Send me, without cost or obligation, your Writing Aptitude Test and further information about writing for profit.

Mr. Mrs. Miss } .....

Address .....

(All correspondence confidential. No salesmen will call on you.)

A dollar brings you THE FAMOUS Runge

POSTPAID

No. 50

For the Railway or Out-of-doors man—Handcut Briar Root, Short Stem, Full Bowl. A distinctive pipe you'll like—$1.00, Natural or Dark Finish.

A. RUNGE & COMPANY, Dept. R-2

18 So. Delaware Avenue, Philadelphia, Pa.

Send for Pipe Catalog *Established 1894*

IF YOU HAVE

GRAY HAIR

and DON'T LIKE a MESSY MIXTURE.... then write today for my FREE TRIAL BOTTLE

As a Hair Color Specialist with forty years' European American experience, I am proud of my Color Imparter for Grayness. Use it like a hair tonic. Wonderfully GOOD for the scalp and dandruff; it can't leave stains. As you use it, the gray hair becomes a darker, more youthful color. I want to convince you by sending my free trial bottle and book telling All About Gray Hair.

ARTHUR RHODES, Hair Color Expert, Dept. 18, LOWELL, MASS.

Employment for 500 Men at Once!

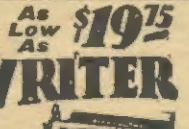
A REVOLUTIONARY Chemical Sponge has just been invented that cleans cars like magic. Banishes auto-washing drudgery. Also cleans linoleum, woodwork, windows without work! Auto owners and housewives wild about it.

The manufacturer wants 500 men and women at once to help him introduce this strange chemical sponge. He offers to send one for trial to the first person in each locality who writes him. Send in your name today—also ask for full particulars on how you can get the Agency and without experience or capital make up to $90 a week. *Address:*

KRISTEE MFG. CO., 2692 BAR ST., AKRON, OHIO

Brand New TYPEWRITER As Low As $19.75

Guaranteed by REMINGTON



Sensationally new low price and easy terms. Standard 4-row keyboard—fully guaranteed by Remington Co. Send No Money.

10-Day Trial—then 10c a Day

Send for new literature and easy pay plan—only $1.00 down, then 10c a day. Also bargains in Standard Size refinished office models, sent free. Write for details and special money-making opportunities.

INTERNATIONAL TYPEWRITER EXCHANGE 231 W. Monroe St. Dept. 136, Chicago

BE A RAILWAY TRAFFIC INSPECTOR

Let Us Train You for a Real Job

ACTIVE MEN—19 to 50—wanted in the *Railway and Bus Field.* Healthful, interesting; travel or stay near home. On completion of a few weeks' home study, you can start in a position paying up to $140 per month, plus expenses. Experience brings rapid advancement. *For 15 yrs. S. B. T. I. has secured positions for graduates or refunded tuition.* Costs little; terms. Free Booklet.

Standard Business Training Institute, Div. 5002, Buffalo, N. Y.

"POPULAR FOR GENERATIONS" (REG. U.S. PAT. OFF.)

PLANTEN'S C & C OR BLACK CAPSULES REMEDY FOR MEN

AT DRUGGISTS OR TRIAL BOX BY MAIL 50¢ from Planten, 93 Henry St., Brooklyn, N. Y.

BEWARE OF IMITATIONS

THE SMALLEST TRAIN IN THE WORLD

OLD STYLE 1890 TYPE 4-4-0 AMERICAN LOCOMOTIVE WHEELBASE ONLY ¾ INCH

ENTIRE TRAIN (ENGINE, TENDER AND TWO PASSENGER CARS, COUPLED) ONLY 4½ INCHES LONG

POSTPAID IN U. S. A. 25c COIN

JACK QUINBY, 17 Longmeadow Road, Yonkers, New York

High School Course in 2 Years

You can complete this simplified High School Course at home in 2 years. Meets all requirements for entrance to college and leading professions. Standard High School texts supplied. Diploma awarded. *Separate subjects if desired.* Send for Free Bulletin TODAY. No obligation.

American School

Dept. H-287, Drexel Ave. at 58th St., Chicago

CLASSIFIED ADVERTISING

Classified Forms Close Two Months in Advance.

AGENTS AND SALESMEN WANTED

WONDERFUL OPPORTUNITY. $20.00 DAILY CAN BE EARNED. NO EXPERIENCE NECESSARY. YOU CAN START AT ONCE. SHOWING LATEST THING OUT. SELF PROTECTION AND HOME PROTECTION AT COST. AGES 1 TO 80. NOT INSURANCE BUT PROVIDES BENEFITS UP TO $1000.00 NATURAL OR ACCIDENTAL DEATH. $20.00 PER WEEK IF SICK OR INJURED. ADDRESS NATIONAL AID SOCIETY, DEPT. L., SPRINGFIELD, ILLINOIS.

MAN—handle regular store route. Place nationally advertised 5c, 10c Counter Card mdse. Complete line; world's largest firm. Over 100% comm. for you and merchant. No investment. Catalog free. World's Products Co., Dept. 2832, Spencer, Ind.

HELP WANTED

$5 TO $50 WEEKLY. Grow fancy "White Queen" Mushrooms in cellar or shed. Free Mushroom Book tells how. American Mushroom Industries Ltd., Dept. 363, Toronto, Ont.

LOCOMOTIVE PICTURES

LOCOMOTIVE PICTURES, Odd, interesting types, old timers, mother hubbards, narrow gauge, loggers, etc. Sample Reading mother hubbard and list 3c stamp. P. Riege, 2209 Oakridge Drive, Dayton, Ohio.

LOCOMOTIVE PICTURES. Send 15c for photo of GRAND TRUNK 4-8-4 type, and list or 25c for 2 photos of any mid-western roads. HOWARD LOCOMOTIVE PHOTOGRAPHS, 822½ S. OAK PARK AVE., OAK PARK, ILLINOIS.

MODELMAKING

THE MODELMAKER. A magazine for those interested in building model locomotives, cars, railroad systems, etc. Working models. Send 10 cents for sample copy. THE MODELMAKER, 122B Liberty Street, New York, N. Y.

SONG WRITERS

FORTUNES BEING MADE from songs through talking pictures, radio, phonograph, music publishers. "Hit" writers revise, arrange, compose music to your lyrics. We submit to studios and other markets. Free reading. Send for booklet. Universal Song Service, 692 Meyer Bldg., Hollywood, Calif.

PATENTS AND INVENTIONS

PATENTS—SMALL IDEAS MAY HAVE LARGE COMMERCIAL POSSIBILITIES. WRITE IMMEDIATELY FOR INFORMATION ON HOW TO PROCEED AND "RECORD OF INVENTION" FORM. DELAYS ARE DANGEROUS IN PATENT MATTERS. CLARENCE A. O'BRIEN, 537-D ADAMS BUILDING, WASHINGTON, D. C.

INVENTIONS COMMERCIALIZED. Patented or unpatented. Send sketch and description or model, or write for information. In business 30 years. Complete facilities. Adam Fisher Mfg. Co., 249 Enright, St. Louis, Mo.

NEW LOW PRICES on GOODRICH-Firestone GOOD YEAR U.S.-FISK and OTHERS $2.15 19-4.40-21

SAVE ON YOUR TIRES

And we defy anyone to excel our quality. Every standard brand tire reconstructed by our superior, modern method is positively guaranteed to give full 12 months' service under severest road conditions. This guarantee is backed by the entire financial resources of an old reliable company. Member N.R.A. Today's lowest prices.

YOU CAN'T BEAT OUR PRICES

BALLOON TIRES Size	Rim	Tires	Tubes
29x4.40-21		$2.15	$0.85
29x4.50-20		2.35	.85
30x4.50-21		2.40	.85
28x4.75-19		2.45	.95
29x4.75-20		2.50	.95
29x5.00-19		2.85	1.05
30x5.00-20		2.85	1.05
28x5.25-18		2.90	1.15
29x5.25-19		2.95	1.15
30x5.25-20		2.95	1.15
31x5.25-21		3.25	1.15
28x5.50-18		3.35	1.15
29x5.50-19		3.35	1.15
30x6.00-18		3.40	1.15
31x6.00-19		3.40	1.15
32x6.00-20		3.45	1.25
33x6.00-21		3.65	1.25
32x6.50-20		3.75	1.35

Reg. CORD TIRES Size	Tires	Tubes
30x3	$2.25	$0.85
30x3½	2.35	.75
31x4	2.95	.85
32x4	2.95	.85
33x4	2.95	.85
34x4	3.25	.85
32x4½	3.35	1.15
33x4½	3.45	1.15
34x4½	3.45	1.15
30x5	3.65	1.35
33x5	3.75	1.45
36x5	3.95	1.55

All Other Sizes

WE WANT DEALERS

All TUBES GUARANTEED Brand NEW

SEND ONLY $1 DEPOSIT on each tire ordered. We ship balance C. O. D. 5 per cent discount for full cash with order. Any tire failing to give 12 months' service replaced at half price.

GOODWIN TIRE & RUBBER CO. Dept. 725
1840 S. MICHIGAN AVE. CHICAGO, ILL.

12 MONTHS WRITTEN BOND GIVEN WITH EVERY TIRE

FREE Flashlight Lantern With Order for 2 Tires
Complete with batteries and bulb, ready to use. Household and automobile necessity. Gives 600 foot light beam. Adjustable handle.

MEMBER N.R.A.

$1,000 Reward!

In a dirty, forlorn shack by the river's edge they found the mutilated body of Genevieve Martin. Her pretty face was swollen and distorted. Marks on the slender throat showed that she had been brutally choked to death. Who had committed this ghastly crime?

Crimes like this are being solved every day by Finger Print Experts. We read in the papers of their exploits, hear of the mysteries they solve, the rewards they win. Finger Print Experts are the heroes of the hour.

More Trained Men Needed

The demand for trained men by governments, states, cities, detective agencies, corporations, and private bureaus is becoming greater every day. Here is a real opportunity for YOU. Can you imagine a more fascinating line of work than this? Often life and death depend on finger print evidence—and big rewards go to the expert. Many experts earn regularly from $3,000 and more per year.

Learn At Home in Spare Time

Now, through this amazing new, simple course, you can learn the secrets of this science easily and quickly at home in your spare time. Any man with common school education and average ability can become a Finger Print Detective in surprisingly short time.

FREE—The Confidential Reports No. 38 Made to His Chief!

IF YOU ACT QUICK—We will send you free and with no obligation whatsoever, a copy of the gripping, fascinating, confidential report Secret Service Operator No. 38 made to His Chief and free book on Finger Prints which explains this wonderful training in detail. Mail Coupon NOW!

Don't wait. You may never see this announcement again! You assume no obligation. Mail coupon NOW—while this offer lasts!

Institute of Applied Science
Dept. 11-42 1920 Sunnyside Avenue, Chicago

INSTITUTE OF APPLIED SCIENCE,
Dept. 11-42 1920 Sunnyside Avenue, Chicago, Ill.

Gentlemen: Without any obligation whatever, send me your new, fully illustrated, FREE book on Finger Prints and the free copy of the Confidential Reports of Operator No. 38 made to His Chief.

Literature will not be sent to boys under 17 years of age.

Name .....

Address .....

.....

Age .....

Law!

STUDY AT HOME

We guide you step by step—furnish all text material, including fourteen-volume Law Library. Training prepared by leading law professors and given by members of the bar. Degree of LL.B. conferred. Low cost, easy terms. Get our valuable 64-page "Law Guide" and "Evidence" books free. Send for them NOW.

LaSalle Extension University, Dept. 258-L, Chicago

BETTER AT 60 THAN THEY WERE AT 35

Feel young again—full of youthful ambition and "pep." Take Rico-Brasil Mate', it picks you right up. Makes you feel like going places and doing things. Excites muscular activity. Keeps your system free from the poisons that slow you up. No need to act OLD or feel OLD if you use Rico-Brasil Mate'. Improvement noticed in 24 hours. Endorsed by Doctors and Scientists. Month's supply for $1.00 by mail, postpaid. With "Folder of Facts." (C. O. D. if Preferred.)

BRASIL LABORATORIES, Dept. 40, 147 E. 47th St., N. Y. City

HIGH BLOOD PRESSURE

Quick Relief, or You Only Pay When Satisfied

If you suffer from High Blood pressure, dizziness, ringing in the ears, can't sleep at nights, feel weak and shaky, bad taste, nervous. If your heart pounds and you fear a paralytic stroke, to demonstrate Dr. Hayes' prescription we will send you postpaid, a regular $1 treatment on absolutely FREE TRIAL. While it is non-specific, many cases report remarkably quick relief; often symptoms diminish and normal sleep returns within 3 days. Contains no salts, physics, opiates or dope. Safe with any diet. PAY NOTHING UNLESS GREATLY IMPROVED. Then send $1. If not your report cancels the charge. Write Dr. Hayes' Ass'n, 3127 Coates, Kansas City, Mo.

Avalanche

By E. S. DELLINGER

Ex-Brakeman, Mo. P. and Frisco; Author of "Beacon Lights," etc.

More Destructive than the Mighty Snowslide Itself Was the Agonizing Fear That Tugged at Sigurd's Heart!

IN the bleak dawn of that tragic morning the wrecker siren sent its call through the Canadian mountain terminal of Selkirk. Four times the weird cry rang out on the frosty air, telling the terminal village that somewhere to the east the avalanche had swept down from mountainsides and buried the tracks beneath its cold white blanket.

The call was not unexpected. Day after day, clouds climbing out of the west had spewed down upon the Selkirk Mountains the heaviest fall of a century. Eight feet on the level at Selkirk, fifty-four at Iceberg, where the rails rear up to go through the pass, and double that on the peaks which tower 10,000 feet into the sky.

And now the slide had come.

In the yellow gabled house at the end of the avenue of hemlocks, Engineer Jens Jensen had sat down to breakfast. As the call came in, he counted aloud the blasts, "one—two—three—four!" And when the count was done, he knew that he had been chosen to go that morning, driving the machine which cleared away the slide.

Though his wife's face was tense, he himself did not register concern. Like his Viking ancestry, he gloried in the life of mad adventure.

His twelve-year-old son Sigurd was like him. This morning, as the call ended, a light of eager anticipation was in the boy's blue eyes. All through the winter, his father had promised that he might ride the rotary to the first

slide which he helped clear on a Saturday.

"Can I go, father?" he asked, as the last echoes whispered among the peaks overhanging the valley.

Before the father could reply, Mrs. Jensen turned entreating eyes toward her husband.

"Please, Jens," she urged, "I wish you not to take the boy today!"

The big man laughed indulgently.

"But I tell him he can go, mother," he reminded.

"Yes, but not today. Some other time."

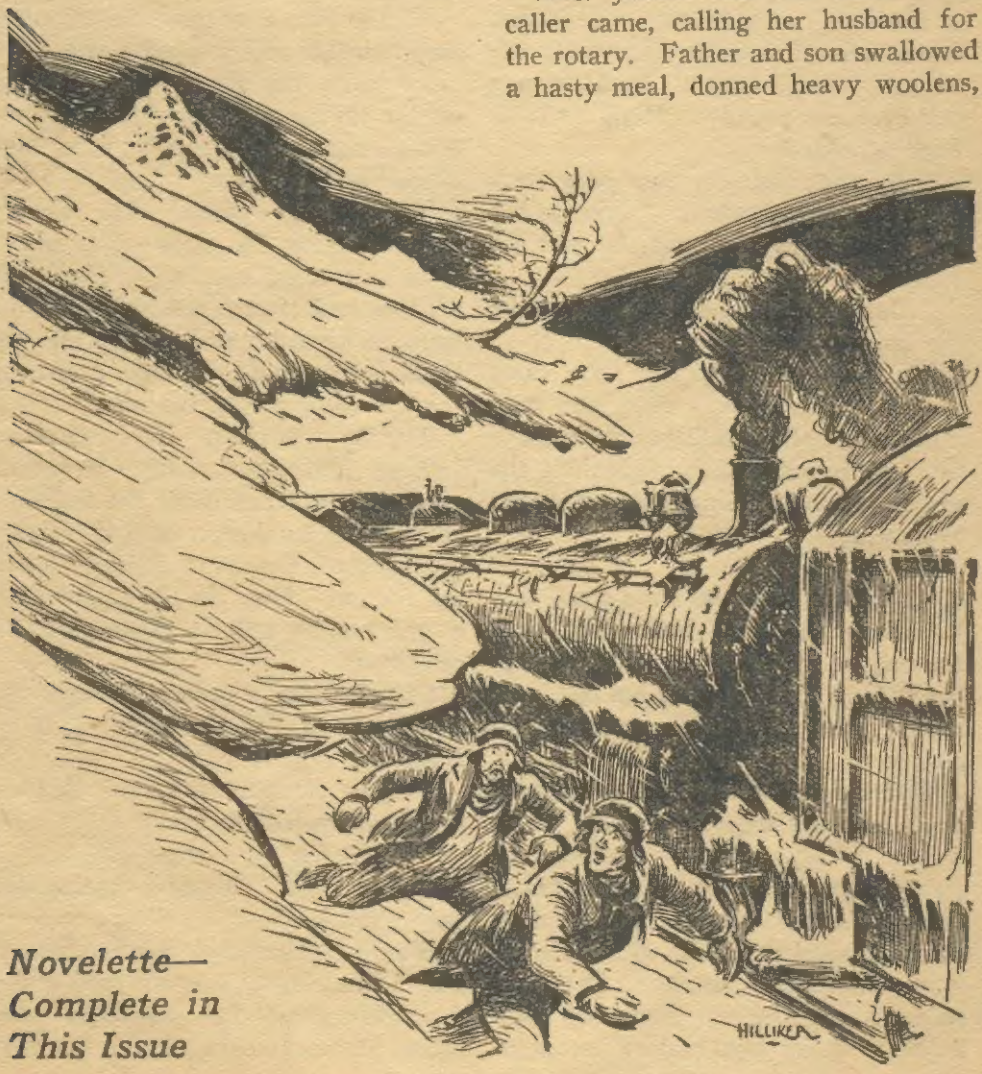
"Why not?"

"I do not know. Something tells me—oh, you would not understand. He is young; it is dangerous; he is only in the way."

The father laughed. "The boy says he wants to be a great engineer. You're not afraid, are you, son?"

"Of course not!" answered Sigurd proudly. "What is there to fear when you are with me?"

Mrs. Jensen said no more. The caller came, calling her husband for the rotary. Father and son swallowed a hasty meal, donned heavy woolens,



Novelette—Complete in This Issue

for it was thirty-two below, and made ready for the trip.

Soon Engineer Hensen, their neighbor, came splitting through the drifts. A step behind him, her black curls flying in the wind and eager blue eyes gleaming in her ruddy face, was his daughter, Litha.

Hensen and Litha did not knock. The two families were on intimate terms. It was tacitly understood that the children, Sigurd and Litha, would some day tighten the bonds which bound them.

Without a moment's hesitation Litha went directly to her young adventurer, seized both his hands in hers and eyed him proudly. Hensen's forehead wrinkled.

"Ay tank you are one beeg fool, Jens," he remonstrated. "Always tak the boy along. Sometime you be sorry."

"Don't!" urged Jensen. "You make the boy afraid."

He laughed. Two big tears came out on Mrs. Jensen's face, and held there while she kissed her men goodby, and watched them fade into the graying dawn, heading east to clear the avalanche.

SINCE the slide was but a small one, where the snow had spilled over the end of a shed at the foot of Iceberg Mountain, they took but one locomotive, the 4803. Hensen was in charge of it.

Under easy throttle, the 4803 moved away, shoving the rotary ahead of it. In the rotary cab were Roadmaster Eric Jensen, who was Sigurd's uncle, the boy himself, his father, the rotary mechanic, and a red-headed Irish trainman. At its rear, between rotary and tender, was Fireman Simpkins, who kept the boiler hot, making steam to drive the huge knives into the caked ice and snow.

Besides these six, there were Engineer Hensen and Fireman Biegler on the 4803, a conductor, a flagman, and a telegraph lineman on the caboose—eleven in all. On the way up to the slide they picked up thirty section men—Japs, Swedes, Italians, with a sprinkling of French-Canadians.

It was warm in the rotary cab. The men sang and jested. They teased Sigurd, who was a general favorite, having ridden with them often before.

All too soon they came out upon the mountainside and stopped a short distance below the slide. Trainmen cut off the engine and rotary from the caboose, cook, and supply cars, and headed into the slide.

Two section gangs were already here, bringing the total up to sixty-eight, including the boy. The early arrivals had started a fire against the bank, and had begun breaking into the shallower parts of the slide, preparing for the work of the machine.

The sky was clear. Every detail of Iceberg peak was visible—its white crown, the beetling cliffs, the timbered belt which lay like a steeply sloping pagoda roof, flared and cupped toward the bottom. Even in the broad light of the midday sun, it glowered down ominously.

"Looks like a tomcat hangin' by wan claw to a gable roof," said an Irishman.

"Whin the cat turns loose we'll be lavin'," growled the other.

"Whin the claw slips, it'll be too late to be lavin'," the first sage replied with a laugh.

Sigurd climbed back into the rotary. He did not leave it again during the day. He knew that watchmen were placed at convenient points to warn of

danger. Still it made goose flesh crawl to hear these men cold-bloodedly discussing possibilities.

SHORTLY after noon a gray haze began closing about the peak. By one o'clock the clouds had replaced the haze.

The short afternoon wore on. The hidden sun circled behind the black cloud curtain. Far up among the invisible peaks, those clouds were adding fresh snow to the load already there.

Some time before 2.50—that's the time all the watches stopped—the knives gnawing into the slide set up a terrific clatter. The red-headed trainman sent one shrill cry from the rotary whistle. Hensen closed his throttle. The whole outfit stopped and backed away a few feet to give room for inspection.

It stood still for several minutes while the roadmaster, Jens Jensen, and the section foreman went forward. Sigurd remained in the rotary cab, snuggling against the boiler head. After awhile his father returned.

"What's the matter, father?" he asked.

"Hit a boulder up there. We back away so the blasting gang can shoot it out."

The boy was conscious of movement, knew they had backed down out of the cut and stopped. He was conscious also of section men going by his window, carrying dynamite and fuse and drills. Soon a voice called his father. Jens opened the right door. Hensen was on the ground.

"Let's go to the car for a cup uh coffee, Jens," he called.

"Okey! Want to go with us, son?"

The boy shook his head.

"I'll look after the engine while you're gone."

Proudly he sat in his father's seat, while all the men except the locomotive fireman went to the boarding car 200 yards down the line.

Soon the shot went off with a detonation which shook the heavy machinery; and a moment later the red-headed trainman gave a signal to shove into the cut. That was one signal which was never finished. As the brakeman lifted his hand, the locomotive whistle burst into one short, sharp scream; and before its cry had died, frightened voices took up the wild warning:

"The slide! The slide! Run for your lives! The slide!"

ALL his young life, Sigurd Jensen had lived in a world where fear was a thing unknown. Now, however, fright seized him. He sprang to the door of the rotary cab and tried to open it. It was frozen fast.

He tugged and surged, but it would not move. Fright gave place to panic, and panic to terror. He forgot the passage toward the rear, forgot everything but that he was trapped between steel walls, and the avalanche was coming.

In his terror, he cried out for his father.

But the only sound which smote his ears was the ever rising roar of the mad wind which rushed down the mountain, and the madder snow which was hurtling close behind, driving it on.

Out in the cut panic-stricken men were rushing headlong down the track. Some whirled from the track and sprang down the embankment. Others, spurred on by terror, fled madly for the protection of the snowshed.

When the warning came Jens Jensen and Hensen had just left the boarding car, and started hurrying back to the

engine. They heard the roar and tumult. Their faces paled, hands trembled.

"The slide!" cried Hensen.

"Sigurd!" whispered Jensen. "He's in the plow!"

Hensen watched men coming pell mell down the hill. Jensen watched nothing. Tight-lipped, he sprang into the center of the track, racing toward the plow. Hensen was behind him.

Halfway to the engine, they met Eric. He did not know the boy was behind him.

"Come back!" he yelled. "Come in, you fools! Let the outfit go to hell! Run for the snowshed!"

But his cry went unheeded. The two men rushed back, squarely into the teeth of the avalanche. They passed the tender. They stumbled by the pilot.

Trapped in his cab, Sigurd heard their hoarse cries break into the roar of the avalanche. Then he felt himself suddenly lifted and hurled through space into darkness.

IT was a long while afterward that he regained his senses. His head throbbed. The low brassy whine of steam was in his ears. He felt about him. Everywhere was cold steel.

Finally he remembered the slide, the avalanche which had been sweeping down, and his father, and the men who had been running toward the snowshed. He wondered if his father had got him to the shed. He called. No one answered. He staggered to his feet and went stumbling through the passage alongside the boiler. He brought up sharply at the rear.

Behind the rotary had been a tender, and behind the tender a locomotive. In the deepening twilight, he let his startled glance sweep backward. No tender, no locomotive was in sight. Had they taken the outfit and left him alone in the rotary?

He looked again. As far as he could see was only the vast expanse of white ice, with here and there a trunk of splintered spruce and snow mist clinging over it.

He did not know that the wind, rushing ahead of the slide, had torn the rotary loose from the tender, and set it high atop the snowshed, near the end of which it had been standing. Neither did he know that of sixty-eight who had come that morning to clean the slide, he alone remained.

Remembering that the rotary had been on the track, he glanced downward. Where the rails should be, was only the sloping grade of white. In terror, he drew back. Even the track was gone. He turned back into the cab and crouched down by the warm metal to shiver through the night.

Snow poured down upon the mountains. The wind came, and the snow let up. The fire in the boiler died, while the cold grew ever more intense. Far up toward the peaks, a lobo howled, and another and another until the night was hideous with their cries. Sigurd thought they were coming for him. Then the howling ceased, and the silence of the mountain night settled cold and still about him.

It must have been near midnight that he heard a sound. He was too miserable to more than notice it. After awhile a light gleamed over the snow to the east. The whistle of a locomotive sounded loud and long. Just above the shed it stopped. The boy tried to cry out, but his voice was a hoarse whisper.

Soon he heard voices. A lantern wobbled in the door; and a human face

peered through the darkness. With an exclamation of surprise two men climbed into the cab. They picked him up, flashed the light into his face.

"It's Jensen's kid!" said one. "Jensen's Sig!"

"Maybe he can tell us how this rotary got on top uh this snowshed. I never seen nothing like it."

They carried him back to a warm caboose and dosed him with whisky. As soon as he began reviving, they questioned him. Brokenly he told the story.

AS soon as steam and steel could carry him, "Dynamite Dan" Ravelstone, president of the V.R.M. &E., hurried to the scene of the catastrophe. Local officials had already secured volunteers to help recover the bodies. When Ravelstone arrived he brought others into the service, searching day and night.

Gathered about the smoking wood fires, or filtering through wooden coaches, were women from the ends of the earth. Mingled with the sprinkling of French-Canadians were blond-haired Scandinavian women, dark-skinned Latin women, slant-eyed Oriental women—women whose men had sought opportunity here. United by a common sorrow, they watched while workers drove ever deeper into the drift.

It was on the fifth day that Sigurd Jensen, having outwardly recovered from his shock, returned to the scene. The things he saw there seared themselves indelibly upon his brain, burrowed deep into the regions of the subconscious, whence years later they were to arise, a source of terror which transcends human courage and shatters human endurance.

It was on the sixth day that they found Jens Jensen and Hensen, found them not three feet apart, where they had plunged into the path of the avalanche, racing to rescue a boy whom a proud father had permitted to be in the heart of the catastrophe.

Late the next afternoon, the two friends were laid to rest under a spruce tree on the hillside overlooking the smoke-stained terminal.

Mrs. Hensen was not able to attend the funeral. Litha, the little tigress to whom her big blustering father had been an idol, went with the Jensens. Hand in hand, she and Sigurd watched beside the grave. She wept. The boy tried to comfort her.

Five days after the funeral Mrs. Hensen went to sleep at night and did not awaken in the morning. The question of Litha's future came up for settlement. Mrs. Jensen wanted to take her into her own home. While they were debating, an envoy came, saying that one of the wealthy railway officials was interested in the little girl and would take her east to be educated.

Friends conferred, decided the opportunity was not to be lightly tossed aside. In the end, the girl went east to grace the bachelor mansion of Dynamite Dan Ravelstone.

The grizzled president himself did not come for her. He sent a woman to fetch her east to Winnipeg. Haughty, filled with the big contempt in which little minds hold those whose station differs from their own, she swept majestically into the terminal village, seized Litha, as the black eagle seizes its prey, and fled eastward.

Sigurd went with his little playmate to the train. Under the horrified eyes of the lady in black he kissed her good-by. He did not know what awaited her. It is doubtful if a half-

dozen of the villagers knew to what foster parents she was going. In time of anguish such as this, people forget the needs of others.

But somehow, when the train puffed up the valley and disappeared behind the banks of drifted snow, Sigurd Jensen felt within his soul that she was passing from his life.

For a few weeks Mrs. Jensen remained in her old home. It was now but an empty shell. The sight of the mountains with their peaks glistening in the sun, or lying all blue-white under leaden skies, became unbearable. She left the mountains. She moved east to the plains of Manitoba. Here, two years later she married and her son, taking the name of her new husband, became Sigurd Lewis.

The Boomer

ON a September morning Superintendent King Lawson of the Devil's Gateway division left the office and strode down to the roundhouse for a conference with "Bugs" Regan, the road foreman of engines.

While they were talking, a tall, light-haired chap in blue serge came down the bordered walk, swaggering as though he owned the world. The two officials watched him come, watched him pause and look through laughing eyes straight at Lawson.

"Mr. Regan?" he inquired.

"I'm Regan."

The foreman's voice was belligerent. The blue eyes shifted quickly to the speaker.

"Beg your pardon, Mr. Regan," apologized the stranger. "I'm Lewis. Sigurd Lewis."

"The hell you are!"

Regan clamped down on the stogy. Lawson chuckled. Lewis laughed good-naturedly.

"I stopped off to see if you was hiring engineers."

"Any experience?" Regan flashed the question.

"Eight years is all."

"Where?"

"Oh! Milwaukee outa Minneap'lis, Grand Trunk outa Montreal, Enpee outa Seattle, C.P.R. outa Saskatoon. Last job was the Great Northern outa Devil's Lake."

"What did yuh git fired offa that job for?" snapped Regan.

The blue eyes gleamed insolently. Lawson was lighting a cigar. Lewis fished a cigarette out of a silver case, hung it between his lips and reached for the super's burning match. When the fag was going, he blew a ring of smoke over his head, glanced amusedly down at his questioner.

"I'm not *right sure,* Mr. Regan," he said soothingly.

Regan snorted. Lawson eyed the stranger keenly. Something in the reckless demeanor struck a responsive chord in his own soul, recalled days when he himself had talked thus to brass hats who became personal. Regan's eyes were flashing.

"I don't think—" he began.

Lawson interrupted the foreman, spoke evenly to the applicant.

"Do you know anything about snow machinery?"

"Do *I* know anything about snow machinery?" echoed Lewis.

"Yes. I noticed you'd worked on several northern pikes."

Lewis blew more smoke into the air, leaned an elbow on a railing. The blue eyes grew wide, then settled back into their reckless twinkle.

"Mister, I know *all* about snow machinery," he boasted. "I was born in the cab of a Milwaukee rotary cleaning a snow slide of the North Pole."

"Aw, hell!" roared Regan. "Git outa here an' come back at three-thirty when I ain't busy."

Almost before he had left the building, Regan turned angrily to Lawson.

"You don't want me to start in hirin' bums like him to run our engines, sir!" he stormed.

Lawson looked out after the retreating figure.

"He might make us a good man, Bugs," he said slowly.

"Good man, hell! He's got more nerve than a vice president."

"I've seen some *good* vice presidents, Bugs," drawled the super. "Besides," he added, "we need some more men who know snow control before winter comes on. That's just a suggestion."

"All right! All right! I'll hire him. But if I don't have to fire him before he's been on the job two days, he'll pull up stakes an' leave before he's been here two weeks."

THAT was, in fact, the very thing which Sigurd Lewis anticipated when he asked for the job in Sleepy Valley. He had not spent more than a month on any job since he had, at his stepfather's request, been kicked out of an engineering college.

But leave it to a woman to hang a blue light on a boomer. Five days after he came into Sleepy Valley, Lita Ravelstone, foster daughter of Dynamite Dan, president of the system, came west for a visit with the Lawsons.

Snatched by the untimely death of a doting father from the home of a hoghead on a western railway, turned loose in the castle of the king of the rails, she had wandered like a lost soul through her strange dominions.

She grew, more and more wayward until she had met the Lawsons, while they were helping build the Rattlesnake Mountain cutoff.

Thrilled by the rugged splendor of spruce-clad mountains, feasting on the companionship of the kindred souls of the boomer official and his wife, she had found momentary contentment. Each year, now, as if drawn by some force, she came west to spend long intervals with them in the land of the great white silence.

On the night of her arrival, the "Big Four" staged their annual carnival and costume ball. Since it was the one great function of the year, she could not help but attend.

Since she had been coming to Sleepy Valley, numerous men of the terminal had sought her company; but she had preferred to go in company of King and Millie Lawson. It was thus she came this evening. Lewis was there, too.

When the official party entered the festooned hall, he was in the act of snatching a girl into his embrace. His eyes fixed accidentally upon the face and form of the girl with the Lawsons.

His body tensed. His head reeled. He thought for an instant the floor was coming up to slap him in the face. He recovered and went on with the dance.

When it was finished he escorted his partner to a folding chair, excused himself under pretense of going for a smoke, and called aside his fireman, "Squirt" Taylor, for questioning.

"Who's the dame that came in with Lawson?" he queried.

"Which one?"

"The beauty, of course!"

"They're both beauties, if yuh ask my opinion. One of 'em was Miz Lawson, the dame you bawled out up at Big Spiral last week. The other was Ravelstone's kid."

"Ol' Ravelstone's kid?"

"Yeah! Only daughter of Dynamite Dan. She come up here while they was building the road. Folks says she's took a shine to this bird, Lawson. Talk of the town, she is. But—well, I reckon it ain't nobody's funeral but theirs."

LEWIS returned to the hall. He was cold sober now. He watched Lita Ravelstone waltz with Lawson, two-step with Regan. About her was something strangely familiar, yet utterly foreign—something which harkened back beyond a miserable youth, something which brought visions of mountains robed with snow.

Many times during the early evening he danced by her. Always their eyes met, and once she smiled over her partner's shoulder. It was that smile which destroyed what balance he possessed and sent him to Lawson awkwardly requesting an introduction.

The affair between them was serious from the moment of its inception. Scandal hounds of Sleepy Valley picked up the scent and bayed long and loudly over the affair between the daughter of a railroad president and a boomer engineer. With the exception of the Lawsons, perhaps not another person in the terminal knew she was not Ravelstone's own flesh and blood.

Even Mrs. Lawson was horrified. But she kept her counsel. Only once did she remonstrate.

On her job as first trick operator at Big Spiral, she always rode the early morning train east, returning on No. 3 in the evening. Lita often went with her. On one of these trips early in October, the girl confided to her that there was to be a wedding in January. Disapproval was written in the older woman's face.

"Are you sure you'll be happy, dear?" she queried thoughtfully.

Lita laughed.

"Of course I'll be happy, you silly woman! Why not?"

"I hope you won't misunderstand me, Lita. I just wondered if you had stopped to consider the cost."

"The cost?" A hurt look came over Lita's face.

"Yes. It's a little hard to say what I mean; but you have always lived in a home where wealth was counted in millions. Whatever you desired has been yours. From wealth, you are going to—to—"

"Poverty?" finished Lita with a harsh laugh. "I'll take it—if it brings me *love!*"

A heavy freight came gliding down the hill. Mrs. Lawson removed two hoops from the semaphore lever, stood on the platform while the engine rambled by. She stepped up beside it, held the hoop for the brakeman to grab, then stood back while the train ran by. Lita, watching the eager eyes, commenced laughing.

"Which had you rather be, Mrs. Lawson," she yelled, "railroader's wife handing up train orders to a freight crew at Big Spiral, or a millionaire's wife trying to boss a gang of high-hat servants in a castle in Winnipeg or Montreal?"

"Don't talk to an operator when she's handing up train orders, miss!" the other girl yelled back.

The caboose went clacking by the station and disappeared into the Spiral

tunnel. The two women returned to the office.

Memories of Terror

DURING his first week Lewis had been constantly in the official eye. Women, booze, reckless running. Every wild dame in the terminal had thrown out her charms and he had slighted none of them.

But the moment Lita Ravelstone came, he dropped all of them as if they had been so many hot potatoes. Not only did he keep away from women, but he quit the booze and became one of the steadiest men on the division.

Regan remarked about it to Lawson.

"The fellow's a puzzle to me," he said. "I can't understand him."

"I told you he was a good man," crowed the super. "You'll see him climb fast and high in the railroad game."

In November Lita Ravelstone went east. About the time she left Lawson called Sigurd into the office.

"If I recall correctly, Lewis," he said, "you told us the day you were hired here that you knew snow machinery. Can you handle one of our machines for us this winter?"

"Sure! I'll take it over any time you want to let me have a shot at it."

Sigurd never told Lawson about his experience in the Selkirk slide, nor of the death of his father. In fact, all through these years he had been trying to put recollection of that tragedy far from his mind. He did not dream now that it would ever come up to plague him.

The snows began early that year. By the end of November the canyons were full. A few days before Thanksgiving Sigurd was called with the machine to clear some drifts out of the cuts. Hennessey went with him on his first trip, and came back gleefully reporting that they had a jewel of a rotary man in that bird Lewis.

It was on the evening of the 25th of November that a trackwalker in Bear Canyon reported a slide off a spur of Big Bear Mountain.

"Not bad!" he told the dispatcher. "Eighty feet of track buried. Everything else looks safe."

IT was 9.23 in the evening when the news came. Five minutes later the wrecker whistle sound its four long blasts.

Lewis was in the pool hall, sitting with one leg thrown up over a table, ready to make a difficult shot. Something in the whistle—he could not have explained what it was—made the cue freeze in the act of moving forward.

He threw up his head and listened. Then, as his father had done that morning fourteen years ago, he sat utterly oblivious to all about him, counting the blasts in a guttural "One-two-three-four." The pool hall crowd was watching, listening.

After the whistle ended, Lewis laughed shortly, loosened the grip on his cue, and went on with the game.

Two minutes later the call boy came.

"We're calling you to handle the plow on that slide tonight, Lewis," he said. "Come out of it and let's go."

"All right, kid," Sigurd called back. "I'll be there Johnny on the spot."

Without waiting to finish the game, he stuck his cue, paid the score and

went to prepare for the trip. He did not think much about it. Many times during his years in the service on the prairie he had run the machine.

He hurried to the roundhouse. His fireman was already there with the outfit under full steam. He climbed into the cab, tried out the controls, tested the ice cutters and steadying blocks, the rotary knives themselves. The machine was working perfectly. By the time he had finished his mechanic came.

Trainmaster Moore came bustling up behind him. Lawson was with him.

"All set, Lewis?" demanded the trainmaster importantly.

"Ready to ride when you are," Sigurd yelled back.

While they were waiting for orders, the garrulous mechanic began a lurid recital of the exaggerated details of the slide out on the main line east of Selkirk when he'd been working on the section. It was the first time in fourteen years Lewis had heard the affair mentioned. He tried not to listen. If he had told the old man then that he himself was the sole survivor of that slide, he would have immediately become a division hero. Instead he whirled and roared out:

"What the hell do you think this is, Peters? The Saturday meeting of the old woman's gossip society?"

Peters looked up, hurt and startled.

AT 10.05 they left Sleepy Valley. The moon was showing over the mountains. The white peaks stood out clearly against the blue of the starlit sky. Several times, as Cyclone Meyers shoved them smoothly along with the 5705, Sigurd glanced up at the snow-covered mountains.

They looked close and top-heavy. He caught himself thinking: "What if that snow should start slipping while we're in here?" Despite the warmth of the cab he shivered, and something down inside of him quickened his heart.

"What the devil's the matter with me?" he muttered.

He whistled. Before a dozen notes had left his lips he snapped them shut. Instead of driving out the memory of his first slide, he was only strengthening it, for the tune his brain had chosen was "Mother Machree"—the melody the Irish brakeman had been singing that morning on the way to the slide!

Nervously he fished out a cigarette and lighted it. He noticed that the eyes of the mechanic were fixed upon him. He shoved back the window and sat with head thrust into the cold. The mechanic dropped a tool on the steel deck. Sigurd uttered a startled cry and whirled around, bumping his head on the window frame. The cigarette went flying into the deck.

"What's the matter, guy?" the mechanic wanted to know.

"Nothing! Only I wish you'd keep your damn hardware in your hand instead of throwing it in the deck."

They entered the gorge below Madder. All about them the mountains towered. Peaks white-tipped and glistening loomed against the sky. In the canyon darkness reigned. On either side snow lay six feet deep.

Ever as they drove deeper and deeper into the gorge fears which he had shoved down beneath a veneer of bluster and bravado came creeping into Sigurd's heart For a time the men kept up a flow of conversation. Gradually, as if his own fear were being transmitted to them, they hushed; and only the wail of im-

prisoned steam, the clatter and grind of steel on steel, the click of the wheels came to break the dead silence of the winter's night.

The engineer whistled for a curve. Sigurd clenched his teeth to smother the cry which sprang to his throat. The pop lifted. He whirled to look back, his eyes widening. The mechanic nudged the brakeman, a new man in this territory.

"I've saw tenderfoots git that way afore," he said.

The brakeman did not reply, but an uneasy quiver came into his own eyes as he watched the new man growing more nervous.

"After the Shot—"

TWO miles above Madder the watchman flagged them. Hennessey and Lawson came from the caboose. The head brakeman left the rotary. Lewis remained in the cab, his face gray. Before they began work, the mechanic climbed out under pretense of looking over the machine. He went to Lawson.

"I'm afraid you're goin' to have to get another man on this machine before we do much work around here, sir," he said.

"Why?"

"This big galoot's either sick, drunk, or scared. He can't hardly stand up."

Lawson strode forward to the machine. Lewis signaled ahead. The brakeman took his station at Sigurd's side to handle whistle signals to the locomotive engineer, for in plow service hand signals cannot be used on account of flying snow.

The mechanic climbed in to handle steadying blocks and the ice cutters which keep the snow sliced away from the rails. Lawson watched covertly. As the machine began moving forward, Lewis opened his throttle, set the huge knives slicing out the snow.

Now, this rotary snow plow is a man-size machine. It resembles a monstrous black worm. Its walls and roof are of heavy steel plates riveted together in segments, giving it the appearance of a huge caterpillar. The mouth is almost a dozen feet in diameter, is filled with a huge fan whose blades are heavy slabs of iron set at an angle.. They revolve like an airplane propeller, cut out the snow and shoot it into the box-shaped hood, whence it is blown outward in an arc.

These knives ate a hole through which the locomotive forced the thirty-ton worm. Soon it was jammed between ice walls level with the windows. The windows were hidden, and then the snow was level with the roof. Windows closed, the men were now in a steel casket, buried in an icy grave. That comparison came to Sigurd's mind as he stood at his controls. He could not shake it.

After awhile they backed out so the section men could come in and tear down the snow from overhead. Lawson crossed the deck and tapped him lightly on the shoulder. Lewis jumped as if he had been stabbed.

"What's the matter, kid?" queried the super.

"Not—not a damn thing!" lied the engineer.

"Thought maybe you was sick."

"When I'm sick I'll lay off."

"Yeah?"

Lawson sniffed his breath for odor of liquor. There was none. With a grunt the super turned and left the machine.

All through the night, frightful images, like laughing devils, kept prodding Sigurd. He tried to drive them away with reason. But ghosts from the past arose to supplant reality and when he would have thought of other things, the only images he could recall were images of that night when his father had gone down under the ice.

As the night wore on, the white face grew flushed, the eyes red and sparkling, the voice became a hoarse whisper. Shortly after one o'clock, they struck a tree trunk lying across the track. They backed the machine away while the blasting gang came in to loosen it, so they could drag it away.

"There was a shot!" the memories whispered while he was idle. "And after the shot, the avalanche!"

He turned to look about him. The mechanic was watching; the brakeman, too.

He flung open the little window, glared out into the night. Beneath was the packed ice and snow. Ahead of him flickering light played on flitting creatures white with frost. It was ghastly. It recalled the night when men had removed the bodies from the Selkirk slide.

THE shot was placed. The gang came out of the cut. He saw them running toward him. The shot went off. A cloud of snow rose skyward. Before it fell the pop valve of the locomotive lifted, with a roar as of mountains falling.

To Sigurd's reeling senses everyone seemed to be running. In the bedlam of sounds voices seemed to be crying out in terror. He lunged backward. The mechanic grabbed him. He hurled the old man aside.

He leaped madly toward the closed door. It flung open. He sprang out into the slide, and wallowing through the snow, sought track behind the engine.

Even as he came out he was trying to yell. As he hit the snow he found his voice, and in a scream audible from the end of the cut to the caboose, he set up a shout:

"The slide! The slide! Run for your lives! The slide!"

Instantly the cry was taken up by section men. Lewis dashed among them, fled down the track toward the snowshed. Men poured after him, jabbering in foreign tongues.

For a moment Lawson and Hennessey were alarmed. Then the cause of the stampede dawned upon them. By this time the whole crew was in mad flight. Lewis passed the rear of the train. The flagman tried to stop him.

As soon as the officials could make the men understand, and get them back on the job, Lawson took the flagman and struck out on foot for Madder.

"That big stiff was sure runnin' like hell!" the flagman said.

"Can't figger what was eating on him," panted Lawson. "Never struck me as the kind that would run for a shadow."

"Drunk, maybe!"

"Men don't get drunk on odorless liquor."

By the time the two men reached Madder, the whole division was in a panic. Babbling of men caught in a snow slide, Lewis had stumbled into the office. The operator had called the dispatcher.

Even now, in Sleepy Valley, whistles were sounding, bells were ringing. Lawson grabbed the key and quickly informed the office. Then he turned his attention to the engineer, who, burning with fever, was crouched

behind the stove, blubbering like an idiot.

IN the hospital he continued raving. Doctors said it was pneumonia. The men who had been with him sneeringly reckoned it was brought on by too much bad liquor. Lawson kept silent. Every day he went to sit with the boy. More than once while he was there Sigurd started up from his bed, eyes wide with terror, crying:

"The slide! The slide!" or "Father! Father! I can't open the door!"

At other times, he jabbered a disconnected jargon of Selkirk—Hensen—funerals under a spruce tree—Litha—always Litha was in his ravings. Lawson thought it was Lita Ravelstone.

For two weeks after his fever left, he remained in bed. Then he was released as convalescent. Shortly after he went back to his boarding house, Lita returned to Sleepy Valley. Knowing that he had been ill, she went immediately to see him. He refused to be seen. In consternation, she went to Lawson.

"What happened while I was gone, Mr. Lawson?" she demanded sharply.

"What happened!" echoed the super. "How do you mean?"

"You know what I mean. What happened to Lewis?"

"Well—" Lawson hemmed and hawed. "He—he kinda made a fool outa himself an' some of the rest of us up here at a slide the night he got sick."

"Made a fool out of himself?"

Briefly the official told her what had happened.

"I suppose you efficiency experts fired him for it, huh?" she asked hotly.

"No, we didn't fire him for it.

He Leaped Madly to the Door, Flung It Open, and Sprang into the Snow

He's never even got able to talk about it since. Acts like he was afraid of his shadow, now. I can't figger out what's wrong."

The girl was utterly shaken. Lawson tried to comfort her.

"He talked about you all the time," he told her.

"About me?"

Lawson nodded. His eyes twinkled.

"Called you his little Lithie—"

"Lithie?" she whispered. "Lithie—why—why—"

Her face flushed, then turned white. Lawson thought she was going to faint. Presently she went on.

"What else did he talk about?" she asked.

"Oh, he talked about Selkirk, and slides, and a funeral under a spruce tree."

The girl lifted a hand.

"Don't, Mr. Lawson!" she pleaded.

Lawson stared at her. He thought that was just like a woman, ask him to tell her something, and then stop him the moment he was started. She arose, paced the length of the room, came back to face him.

"Mr. Lawson, do you know who I am?" she demanded.

"Why—uh—no."

"Listen! I am Litha Hensen. My father was an engineer. He was killed in the Selkirk slide, fifteen years ago. I have not heard myself called Lithie since—"

She paused to regain control of her voice.

"And you told Lewis about the slide before you left?" Lawson inquired shrewdly.

"No! No, I never told him. I've never mentioned it to a soul in all these years. I've tried to forget it."

"Then what—"

"My father had a friend named Jensen. Jens Jensen was engineer on the rotary. He was killed in the Selkirk slide. He had a son, Sigurd—"

"Sigurd?"

"Yes. He was with his father that night. He was not killed. He and I were kid sweethearts."

"And you're telling me that this—this Sigurd Lewis was Jensen's son, that he went through the Selkirk slide and came out alive?"

"I don't know, Mr. Lawson. From the moment I met him I had the feeling that I had known him sometime. I thought it was only the name which was familiar. Do you think he could—for some reason — have changed his name?"

"I—I don't know, Lita. I'll find out."

"I'll Never Come Back Alive!"

THE matter of his identity cleared up, Lawson expected Sigurd Lewis to regain his self-control and return to work. Instead his fear clung to him like a touch of madness.

And the elements but strengthened the power of the disease over him. Snow kept piling deeper. The sore spot of the division was around Madder, in Bear Creek Canyon. The one-roomed station itself was built directly beneath the point of a spur jutting from the side of Little Bear Mountain on the north.

Like a wedge, this spur pointed straight into a side canyon coming down out of Big Bear on the south. From Big Bear, three old slide paths crossed the tracks. These slide paths had been covered with snow sheds, which were intended to take care of all

ordinary slides. But as it had been in the Selkirk mountains that other winter, so it was now in the Rockies. The abnormal fall continued as if nothing could ever stop it.

Around Madder Lawson gathered the most experienced men in his territory and set them to watch for approaching danger. There was even talk of closing the road for the winter.

"It might be advisable," Ravelstone told the super once. "I've had one slide."

"I heard about it," Lawson said dryly. "But if you want to keep the pike open, we'll stay with it and fight it through."

Because closing it would have meant defeat, Ravelstone and the higher officials returned home and let Lawson keep the line going.

While the super and his forces fought the winter's snow, Lewis cowered in his room. It was pitiful to see him, peering fearfully out at the towering white masses, staring at every noise, eyes growing wide with terror when locomotives whistled or box cars bumped and rattled in the freight yards. But for the fact he would have been forced to ride between mountains, he would long since have left the valley.

Christmas passed. The middle of January came. Still he had never gone on the board.

Lita did not desert him, of course. He cursed and abused her. Friends sneered at her. She ignored both curse and sneer. When she knew he was Sigurd Jensen, knew what tortures he had suffered during the wasted years, nothing could have driven her from him.

Though the engineer shunned him as a hobo shuns the bull on a silk train, Lawson tried to keep up her spirits. "We'll pull him out of it," the super assured her. And, despite the caustic comments of his office force, especially Regan, he kept right on trying.

"It's a case of fear hypnosis," the doctor told Lawson. "If you can make him carry through under the condition which caused the trouble you might bring him out of it. It's only a chance, of course."

Lawson thought over the diagnosis. He talked to Lita about it. Even went to see Dynamite Dan Ravelstone, who had now come into the case, not in explosive opposition, as Lawson had feared, but in a friendly way which Lawson had thought utterly foreign to his nature.

IT was on the 8th of February that Lawson reached his decision. On Sunday, the 12th, despite a severe cold and headache, Lita went with Mrs. Lawson to Big Spiral, intending to return home on No. 3 late that evening.

Even as they left, a strange tension filled the air. The frozen sun sneaked up from the crag-rimmed east and crawled from sight behind ever-thickening masses of black. A hush hung over the land, and when the hush was broken a raw wind sobbed down from the east, pushing snow before it.

At Big Spiral the two women, visiting as they worked, set the office to rights. About 10.30 No. 36, the eastbound manifest, with two engines ahead and one behind, pounded up the grade. Men waved a greeting from cab and cupola. The women responded with an answering wave.

The noon hour passed. The waves of white became an impenetrable curtain. An extra freight came down from the east, followed by the helper which had cut off the rear of No. 36 at the tunnel.

Lita, whose hopes were at lowest ebb, talked constantly of Lewis.

"I'm afraid nothing will ever straighten him out," she confided. "He doesn't seem to even want to get well."

"Wait till a slide comes," returned the older woman. "They're going to get him out on the road and make him stay."

"But you've no idea how queer he is!"

"You've no idea how bull-headed King is, either. King's going to take him out and *make* him stay. Won't let him quit, like he did the other time."

Lita's chin quivered. Tears welled up in her eyes.

"I'd hate to see them do that," she protested.

"Why? He's a disgrace to himself and everybody else the way he is. It might help him. It can't hurt him."

Mrs. Lawson looked sharply at her sounder. Its tempo had changed. The wreck signal was coming in.

Mrs. Lawson listened. Lita listened, too. The operator at Valleydale reported No. 32 in the ditch at the foot of the hill, thirty cars on the ground, two engineers and two firemen killed.

Wires began to hum. The dispatcher ordered out both wreckers. He tied up No. 3 in Sunshine, detoured eastbound passenger traffic, tied up the hill engine and the extra freight at Madder.

Then the click of the sounder broke in the middle of a word. Mrs. Lawson also broke in with the call for Sleepy Valley. There was no response.

In alarm, Lita watched. Mrs. Lawson switched to other wires. They were all dead. She grounded west and called Sunshine. The eastern terminal replied, queried, was answered. Then she turned to look at her guest.

"It never rains but it pours," she said calmly.

"What's the matter now?"

"Wire's dead to the west."

"You mean there's been a slide?"

"Yep, 'spect so. Don't know what else would put all the wires on the blink at once."

"Then they'll make him work today?"

"They're *very* apt to," the super's wife replied.

SIGURD LEWIS returned from lunch at 12.50. He had a pint bottle of whisky in his hip pocket. It was the first liquor he had had since Lita had come to Sleepy Valley. His eyes bore an insane glitter. He slammed the door, flung his overcoat on a chair, strode to the cupboard, and filled a drinking glass.

"Damn 'er soul!" he muttered. "I'll show 'er how to leave me an' run off after these cussed Lawsons!" He tossed off half the glass at a draught, wiped his mouth on a wrinkled coat sleeve. Then the sound of the wrecker siren rang out on the raw wind.

"Waa-aa-aa—"

The first cry was long. Lewis set down the bottle. His muscles tensed. He did not breathe.

"Waa-aa-aa—"

The second cry, like the first, was long. The third cry came, followed quickly by a fourth and a fifth, short, sharp, imperative. The pallor left Sigurd's face. He laughed shortly.

"Only a wreck in the east!" he said, feeling relieved.

Quickly recalling that Lita Ravelstone was riding No. 3 home from Big Spiral, he jerked out his watch, looked at it. No. 3 was not yet out of Sunshine.

He donned coat, and boots, and went down to the street. A fireman hurried by on his way to the roundhouse.

"Where's the wreck, pard?" Sigurd asked.

"Thirty-two's in the ditch around Valleydale." The fireman flung the answer over his shoulder.

"Anybody hurt?"

"Head end killed!"

The fireman was lost in the swirl of falling snow. Lewis went to the yard office. It was the first time he had been there since November. From the yard office he returned to his room.

In the church two doors away the organ was playing, its vibrating tones now fading into plaintive whispers, now rising until they shook the glasses on his table.

With an oath he fished out a pack of dirty pasteboards and commenced a game of solitaire.

The whistle sounded. Again he listened, scarcely breathing while it measured off its four long blasts. It seemed that those four weird calls had been ringing in his ears since the beginning of time. He stumbled to the window, looked into the street. King Lawson passed by. Sigurd began to tremble.

HEAVY steps were on the stairs. They were taking them two at a time. A hand knocked on his door.

"Come—come in!" he croaked.

Lawson yanked open the door and stood before him. The official jaw was squared.

"Get into your duds, Lewis," demanded Lawson. "We've got to use you on this slide today."

Sigurd's hands were shaking. His eyes flashed with fear and insane fury He clenched his huge fists.

"You ain't using—me!" he said thickly. "I ain't working!"

"We've got to have you," snapped Lawson. "There's a big wreck at Valleydale. We've got a sixty-foot slide between Madder and Big Spiral. We've got to clear it so we can get the wrecker through."

"Use Bently!" Lewis' hoarse voice was stubborn.

"Bently's got pneumonia." That was true.

"I'm not going!" Sigurd uttered the words from trembling lips.

Lawson stood with outspread feet, hands in overcoat pockets.

"Listen to me, Lewis!" His voice was calm, cold. "I've come for you. You're going with me. You might as well get ready."

"You can't do that. You can't make a sick man work!"

"I'm going to make *you* work. You're handling the 5729 tonight!"

"But—but—"

Both fists clenched, Lewis took a step toward the official. Lawson lifted a quiet hand.

"Don't, Sig!" he said. "I don't want to hurt you. I'm going to take you if I have to knock you down and drag you. You may as well get ready."

Defiantly the young engineer faced his superintendent. The second hand went once around the dial. Out in the yards the 5729, coupled to the rotary, answered the signal of an air inspector testing the air. The church organ was again playing.

Face working, hands opening, closing, Lewis measured Lawson's height and girth. The official did not remove his hands from overcoat pockets. Now the people in church were singing:

Though like the wanderer,
The sun gone down—

Tears sprang to Sigurd's frightened eyes, ran down his pasty cheek. Back through the years his fevered brain raced to a group gathered under a

spruce tree, and a little girl with black curls, and a grizzled railroader standing by.

Lawson did not move. A lump came into his throat. Into his heart came the surge of fear, as if his soul had caught a message from another world.

Beads of sweat came out to stand upon his own gray face. Almost he was persuaded to give up and call another man. But through his memory came the words of the doctor. He spoke once more, and his voice was like a hammer.

"Get ready, Lewis! We're riding east!"

Sigurd straightened. Like one hypnotized, he moved to obey. Blindly he groped in his closet, found a grip, stuffed overclothes into it, and seven minutes after Lawson had entered the room the two men strode together down the stairs, out into the blinding snow, toward the roundhouse yard.

Once only did the young engineer speak. Then he looked at Lawson, defiance gone from his blue eyes, the old fear shining from them, and croaked:

"I—can't go, Mr. Lawson! I'll never come back alive!"

"Don't worry, kid," assured the super. "I'll be right with you. Forget about that old stuff. Think of Lita!"

The Agony of Fear

THE outfit was ready to move when they reached the yards. As made up, it consisted of the rotary and its tender, ahead of the engine; the 5927, a new 2-6-6-0 Mallet type with both sets of cylinders head to head in the center; an extra car of coal for the rotary. There was also a supply car, carrying powder, drills, hammers, and other equipment; a boarding car with food; and, finally, a caboose.

Cyclone Meyers, the rotary engineer, was not friendly. With cold contempt he watched Lewis stumble up into the cab of the engine.

"I don't see what you birds want to put a yellow-necked infant like him on an engine for," he raved. "Instead uh makin' him work, yuh oughta tie a tin can on his tail an' rock him outa Sleepy Valley. Let any of the rest of us fellows pull a stunt like he did an' that's what'd happen."

"All right, Meyers," growled the road foreman. "Git on that rotary an' hit the ball. This bird won't last much longer."

Once in the cab, Lewis seemed to recover his equilibrium. He looked into the firebox, tested the lubricator, checked steam and air and water. Soon Mike Malone came with the orders.

"You back on the job, kid?" the conductor asked in surprise.

"Yeah!" Sigurd's voice was husky. He did not look up. The fireman winked at the conductor.

After reading and repeating his orders, Lewis climbed into the seat, whistled two short blasts. The fireman waved a highball. Malone passed it from the ground.

As they cleared the yard limit Lawson squeezed in behind the engineer. He was breathing more easily now.

"Doc must have been right," he thought.

They left the valley, entered Bear Creek Canyon. Snow was all about them, higher than their heads. Lewis squirmed and twisted. Many times he jerked off the gauntlet and looked at the gold watch. Lawson felt his body move with a convulsive shudder, saw his trembling hand ease off the throttle,

then quickly jerk it wide. He tried to strike up conversation, but Lewis maintained a stony silence.

All through the ride, the prickle of unconscious fear kept tingling through his own stout soul. To right and left were mountains whose very ribs were quivering under the load of snow. Never within the history of any living man had such a fall been recorded. And every time he glimpsed the whitening face of the engineer, a something seemed to warn him that such fear was not without foundation.

AT Madder they stopped for water. Lawson went into the telegraph office. Only the flue was visible, with its thread of smoke climbing into the falling snow. He entered the door through a trench cut in the snow. Kimpton, the old Swiss track walker, was thawing out his fingers.

"How does it look?" Lawson asked.

"Bad!" muttered the old man uneasily. "Worst I ever saw."

"Big Bear?"

"And Little Bear, too."

"But there's never been a slide off Little Bear. Trees all over the face of it."

"That's no sign there never will be, sir."

Whether the gloom of the dying day or the presence of Sigurd Lewis on the crew, all the men seemed to be in the dumps. Those in the rotary did not leave their warm quarters. Faces pressed to dingy windows were drawn and dismal. Mike Malone, when he came into the office, spoke in a voice which he made careless only with an effort.

"She's goin' to be one helluva sweet job tonight, Mr. Lawson," he said.

"Yeah." Lawson thrust cold hands toward the stove. "If it wasn't for getting this wrecker outfit to Valleydale we'd shut up tonight, keep everything off the line, an' let Old Man Winter have it till the weather clears."

It was 4.10 when they left Madder. They hoped to be through by 10.30, midnight at the latest. Lawson climbed back into the cab with Lewis, who was struggling to control his emotion. Trembling hands lighted a cigarette, and, before the cigarette was gone, threw it away and lighted another.

A mile above Madder the watchman flagged them, went with them up to the slide.

LAWSON went with Hennessey to look over the damage. They found it less serious than the first reports had indicated. A snow shed had caught the center of it, sent it slithering over into the canyon, leaving a straggly dump of packed snow, mixed with rocks and bits of wood, hanging over each end. Lawson returned to the engine.

"We ought to work this out in three or four hours, boys," he told Sigurd and the fireman.

"We can't get it done too soon to suit me," muttered the latter. "From what these track walkers say, the top of the world's gonna come tumbling down on us before morning."

Lawson glanced quickly at Lewis. The engineer pretended not to have heard.

Soon the rotary whistle sounded two short blasts, signal to the engineer to shove into the slide. Carefully Lewis eased the 5729 forward. The knives set up a deafening roar. The black worm nosed into the drift. By dark they had advanced thirty feet into the slide. Gradually the blue-white walls were closing in upon them.

The telegraph lineman was out splicing broken wires. In the cab of

the rotary Mike Malone stood beside Cyclone Meyers, signaling. Lawson stood on the deck of the 5729, listening to the signals, watching Lewis.

If ever man struggled with torturing devils, the engineer was struggling now. Beads of cold sweat stood out upon his face. He tossed cap and gauntlets under foot, worked bare-handed, bareheaded. And as he worked he listened, listened as if the blast of the judgment trumpet might come ringing out across the world of ice and snow. At every stop he stood tensed, glancing fearfully behind him, like a balky horse watching his master. Twice he left his platform, stumbled across the deck, snatched the water jug and drank greedily.

Lawson kept track of his every movement, noted the feverish light which was coming to his frightened eyes. Never had he seen such agony written in human countenance. He began to regret having brought the man out.

IT was an hour after dark that they hit the first real obstruction, close up to the end of the snow shed. A frantic stop signal came from the rotary. The roar of the knives ceased. They backed down out of the cut. Hennessey came from the machine and swung up into the cab.

"Yuh might as well back down there a couple of hundred yards further. We've got a batch of boulders to shoot out of here."

Like one in a dream, Lewis backed the locomotive down through the cut. Once again fearful memories were getting in their deadly work. As in the other slide, subconscious voices were whispering: "There was a shot! And after the shot—the avalanche!"

Though he was looking back, he did not see the stop signal from the rear; or, if he saw, he did not heed it. At twelve miles an hour the locomotive was driving straight into the supply car, where men were breaking open cases of dynamite!

Lawson saw the signal. He glanced up at Lewis.

"Stop 'em!" he yelled. "Stop—"

The engineer did not move to obey. Frozen to his post, he was letting the machine roll on down the hill. The men outside set up a cry, started running for safety, not from the avalanche, but from the wreck that seemed inevitable.

Lawson whirled, leaped to the deck, fumbled for the brake valve, jerked it to emergency. The tender struck the supply car. Lewis looked up at the super. His eyes were wide. His face was white.

Before Lawson had time to turn around, Hennessey came roaring into the cab.

"I'm goin' to have another man on this engine, Mr. Lawson!" he raved. "I don't know what your fool notion is for keepin' this bird workin', but I'm not goin' to risk men's lives another minute by keepin' a lunatic at the throttle of a locomotive on a job like this."

His face almost as white as that of the engineer whom he had been trying to protect, Lawson lifted a hand.

"That will do, Hennessey!" he said hoarsely. "I'll take it myself."

"All right, then. Take it!"

While the men were placing the shot, Lewis stumbled down from the platform, picked up his cap and gauntlets. The fireman watched with a sneer. Lawson swung off the seat and looked at his watch.

"I'm sorry, kid!" he said, laying a heavy hand on the engineer's shoulder. "Sorry as hell!"

"You can't help it, Mr. Lawson. It's me."

Lewis tried to laugh. He turned, stumbled toward the gangway.

"Where you going?" asked Lawson.

"I'm going to—to Madder. I'm going to catch Number Eight tonight. I'm going south."

"Have you forgotten Lita?" Lawson eyed the cringing figure, the gray face.

"Tell Lita to forget I ever lived," he said thickly. "Tell her— I don't give a damn what you tell her!"

He stumbled down the steps. Through eyes which saw dimly Lawson watched him pass the supply car and sink into the curtain of falling snow.

The Slide!

MRS. LAWSON waited tensely for communication to be resumed. Every few minutes she plugged in to see if the wires had been repaired.

While she waited new causes for alarm arose. Lita's cold grew rapidly worse. Her face was hot and flushed. She broke into a hacking cough.

Millie drew two benches up to the stove, made a bed, forced her to lie upon it, dosed her with hot tea and ransacked the emergency kit for medicine. By nine o'clock Lita was delirious. She talked incoherently of Sigurd and the slide and Selkirk.

"Don't make him work tonight, father," she would cry. "He might be killed. He might—I tell you. I want to stay here. I don't want to leave him. There's too much snow—"

A dozen times Millie tried to call Sleepy Valley. Not a whisper came back from the silent wire. But at 10.50, when she plugged in, her key broke into a mad clatter.

She listened. The dispatcher was issuing an order to the westbound extra at Madder. At the first break she cut in to report. The dispatcher asked about the snow. She replied quickly, told him of Lita's illness.

"We should get her into town at once," she said.

"The plow will be in Big Spiral about 11.50 or midnight," he told her. "Slide above Madder. Mr. Lawson's on the plow. See what he says."

Lita grew constantly worse. Millie was busy keeping the girl in bed. She breathed a sigh of relief when, at 12.05, she heard the cough of a freight engine in the tunnel, saw the rotary go by her window, saw her husband come bursting in at the door.

Lawson had planned to ride the wrecker to Valleydale, letting Trainmaster Moore return with the plow to Sleepy Valley. Instead, he sent Moore over the pass, loaded Lita into the freight caboose, and started immediately on the return trip.

"We'll set out the plow at Madder," he told the dispatcher. "You can catch that hill engine and send him back for it. Be sure to have the ambulance meet us at the station. Miss Ravelstone and a Jap section man are coming down with pneumonia. We'll try to be in there by 1.15."

But they were not there by 1.15.

About 12.30 they stopped in Madder to turn the engine on the wye, set out the plow, and shift their train. Lawson let Cyclone Meyers take charge of the 5729. He first went to the station. Sigurd Lewis was with the operator. He was hovering over the stove. He looked like an old, broken man.

"Lita's out here in the caboose,"

Lawson told him. "You'd better come and see her."

"It's no use, Mr. Lawson," he croaked.

"She's sick. She's been calling for you."

"I can't go on, Mr. Lawson," he said thickly. "The quicker she forgets me, the better."

"All right, you spineless jellyfish," Lawson roared. "Stay here an' whimper till hell freezes over."

With a bitter oath he whirled and strode out of the office.

He swung up the rear platform and entered the caboose. Lita asked about Lewis, wanted to know if Lawson had brought him on the rotary. Lawson's eyes were blazing. He opened his mouth to blurt out the truth, and give some harsh advice. Millie shook her head. Lawson looked her in the eye. His face relaxed.

THE 5729 coupled gently into the caboose. King heard the trainman lift the coupling lever, quickly let it fall, heard a startled cry, heard the cry taken up to front and rear.

He sprang to the door. From up the mountain a dull sullen roar was coming. It grew in volume until it filled the whole valley. He turned back inside. Mike Malone ran in and slammed the door.

"Slide!" croaked the conductor. "Comin' off Little Bear!"

Lawson said nothing. He was thinking of Lewis and the blind fear which had possessed him. Millie stood listening. Lita Ravelstone lifted herself to a sitting posture. Wild laughter came from her parched lips.

"Sigurd!" she cried. "Don't let them take you on the plow tonight. The slide's coming. Don't you hear it?"

As if in answer to a summons, the caboose door opened. Lewis stumbled through. The Madder operator was behind him. They cowered by the door.

"The slide!" whispered Lewis. "I told you—listen!"

"It's all right, King!" Millie whispered.

Lawson reached for her, caught her in his arms. Lewis swept terrified eyes over the caboose. They came to rest upon Lita Ravelstone. Senseless terror left his face. Into it came a bit of the old daring.

Like a hypnotic subject who is awakening from a trance, he came alive. He sprang to Lita's side, stooped, caught her in his arms, stood clutching her to him.

Louder grew the roar and rumble. The earth was trembling. Down the mountain monstrous balls of snow and rock tore through the young forest of spruce trees as if they had been of paper. Terrified voices outside were jabbering.

A third time the door burst open. Like trapped animals seeking companionship of their kind, men swarmed in. Japanese section hands, Cyclone Meyers, the rotary mechanic, firemen, brakemen, piling into the caboose, as if they thought its thin walls might withstand the mighty pressure of the avalanche.

The caboose rocked. It was as if the whole earth were tumbling about them. The final crash came like the beat of a million drums. Windows burst inward. Glass rattled on the careening floor. Men were hurled from their feet. The caboose reared and settled slowly back in place.

The deafening roar subsided. Echoes played among snow-robed peaks. The echoes grew to whispers. The whispers blended with the whine of steam on the 5729.

LAWSON wondered if he had died in the avalanche. He had expected to. No! He was cold! He moved his left hand. It was covered with powdered snow. He grasped a particle of broken glass.

He fumbled for a match, lighted it, looked about. The caboose was full of men. They were crossed and piled, the one above the other. Heads moved. He shook Millie.

"What happened?" she whispered.

"The slide!" he muttered.

He left her on the floor, stumbled to the locker, drew out a lantern and lighted it.

Men scrambled to their feet. The flagman did not get up. His head having struck the corner of the locker, he was lying unconscious. Lawson and

Like One in a Dream, Lewis Backed the Locomotive Down Through the Cut

Meyers went out to take an inventory of the damage.

As they emerged from the door, two track walkers with lighted lanterns came floundering toward them. They were yelling excitedly at each other.

"What's happened here?" cried Lawson.

"The avalanche—it came off Little Bear!" yelled Kimpton. "Thousand feet of it over the track below us. I just did make the shed before it hit."

"Another thousand feet up the canyon," put in the man from above.

"How—what kept it from striking here?"

"The ridge—the backbone!" explained the old Swiss mountaineer. "It split it. Part of it went above the ridge, part below. Only thing that saved you was the backbone of rocks on this side of Little Bear."

Soon other lights were playing over the scene. Meyers scrambled into his cab and brought out a torch. Trainmen relighted lanterns. Meyers and the conductor went down to see whether or not they could use the wye.

Lawson returned to the caboose. Millie had got Lita back in bed to protect her from further exposure. The girl was delirious. Lewis was with her. Lawson eyed him questioningly.

"What happened, Mr. Lawson?" he asked.

Briefly the super explained.

"What you going to do about it?" asked Sigurd.

"Same thing you always do when a snowslide hits the track in this damn country."

MRS. LAWSON heard her husband's cold announcement with alarm. "Same thing you always do" meant driving in with the rotary, eating a trench along the track through ice thirty feet deep in places. That would require days. She glanced at Lita.

"We've got to get her out, King!" she said.

"We won't get her out today," he muttered. "Nor tomorrow. You don't seem to savvy that we're trapped in. Only way out of this hole's snowshoes. It'll be hours before we get a train from Sleepy Valley. Days before we get one from Valleydale."

Lawson left the caboose. Stunned, Lewis followed. A fierce wind had sprung up. It was piling snow in uneven ridges, sending the temperature racing down to thirty-five below.

Men were huddled by the 5729. Except for a few hardened ones like Cyclone Meyers, they were still in panic, though the immediate danger had passed.

"Slide's liable to come off Big Bear any minute," cried one.

"Best thing we can do's get out of here before we git buried," said another.

Lawson strode into the group. He spoke calmly to them. Briefly he reminded them that in the caboose were three persons who could not go out over the slide.

"Are we going off and leave them in here to die if Big Bear slips?" he asked. "Yoho," he pointed to one of the Japanese boys, "are you going away and leave your father? He cannot walk. It will be noon tomorrow before a train comes. If we ever get these people out, someone is going to have to work right here under this mountain to do it."

The one who had suggested going over the slide cried out:

"Let's git busy, you guys! Hitch the hog to the mole an' let's go!"

And thirty voices sounded the echo.

Lawson took charge. He sent a track walker to Ventana to report.

"Tell Regan to get that other plow to work on the lower end," he instructed. "And tell the dispatcher to send up a special right behind it with a coupla Pullmans, and the best doctor in town."

He sent the lineman to repair broken wires. He put section men to work with shovels, cleaning switches, so they could get the engine on the rotary and turn on the wye.

Sigurd worked with the train and engine men. They boarded up broken windows, carried coal into the caboose, removed food from the boarding car, and placed it in the half-wrecked station. He worked incessantly. When they stopped to rest, he kept working. The fellows watched him with cold contempt.

By daylight Monday the switches were cleared. Lawson called the men together in the boarding car.

"Cyclone, you'll have to handle the machine," he told Meyers. "I'll take the hog and shove her through till Regan gets here with a relief crew."

Sigurd stepped forward to face the superintendent.

"I'll handle the machine," he said. "Let Meyers— "

"Yeah! You'll play hell handlin' the machine," raved Meyers. "You'd git scared an' run off the first time we hit a boulder."

The task before them was tremendous. Down the canyon, cold and white in the dismal dawn, lay one vast stretch of snow, crushed and kneaded until it was like pressed ice. Frozen into it were granite boulders, and trunks of trees which had come down the mountainside.

It was not level. It lay in ridges like miniature mountains, here six feet deep over the rails, rising there to a height of five times six, then falling away like the trough of a frozen wave.

Grimly they set to work. They coaled and watered both plow and locomotive, and headed into the slide. Wondering how long Lewis would carry on, Lawson boarded the rotary. Sigurd did not look up. His face splashed with grease and grime, he turned to his levers.

In Bear Creek Canyon

AT eight o'clock the operator brought a message from Ravelstone instructing Lawson to remove all men from slide territory, awaiting further orders. The super's stiff fingers crushed the message, scribbled the word "Impossible," and shoved it at the operator.

At ten a locomotive pulled in below the slide. The doctor came over the snow. Regan was with him.

"What in hell do you mean by stayin' in here, Lawson?" he raved. "Didn't you get Ravelstone's message?"

"Yeah!"

"Well, why don't you get these men outa here before yuh git another outfit buried like they did over at Selkirk?"

"My reasons is back in the crummy, Bugs."

"Yeah? Well, I'm takin' these men out. That's why I didn't bring a relief crew."

"Listen to me, Regan! You get back over to that other plow and get busy. When these pneumonia cases can be moved, we'll all go out together. Until they can—"

Regan went back over the slide. The

doctor went to the caboose, where he examined the patients.

"We might move the brakeman," he said. "The girl and the Jap would both be dead before we got them to Sleepy Valley."

Around noon the snow mist lifted. Anxious eyes beheld the wide white scar, where yesterday century-old trees had stood solidly. From Little Bear they turned to view the mountain to the south. Snow clung in tottering masses, sixty to eighty feet deep. What another day might do, even the most experienced men had long since ceased to prophesy.

Shortly after midnight Lawson came into the machine, where it had stopped for the section gang to do some blasting. Meyers had joined Lewis. Tired, grimy, red-eyed, the men watched the superintendent clamber into the cab.

"I've got good news," he said.

"Yeah!" roared Cyclone. "Who's dead now?"

"Nobody dead, old top," laughed the official. "In fact, the patients are getting along fine. The news is that Regan's gone to Sleepy Valley for coal and water. He'll bring out a relief crew for us. Maybe you boys'll get a little rest now in a coupla hours."

IN the cut a lantern lifted. Lawson remained with Lewis. Slowly Meyers shoved forward. They had no headlight. In the flare of torches, men stood atop the snow. Soon the walls were higher than the windows. Higher than the roof. To front and side, not a thing was visible save the striated white ice creeping by the grimy panes.

Then the machine eased into the snow. Its knives were roaring. Nose boring into the solid wall, the locomotive forcing it forward, the body set up a quiver.

The men stood in silence, each at his post. Trembling from weariness, the old mechanic let down steadying blocks and ice cutters. Compressed air held them against the rails to shear away the ice before the flanges. The trainman, hand on whistle, stood beside Lewis, ready to sound a signal to Meyers. Lewis widened the throttle when the speed slackened and eased it when the speed increased.

For forty hours these men had been on duty, tensed under the wreck of impending death, tortured with hellish heat, chilled by the Arctic cold. For though it was forty below outside, within the machine was the torrid heat of the tropics.

Great beads of sweat stood on grimy foreheads, clung to heavy clothing, ran in puddles into lace boots. And when, on backing out of the trench, the men had to leave it to work on the machinery in the open, clothing froze stiff almost before the bitterly cold wind hit it.

At irregular intervals, when the section men were clearing obstructions, or when the outfit backed into Madder for coal and water, the crew hurried to the boarding car, drank black, steaming coffee, ate hot sandwiches which the Chinese cook kept always ready.

On these occasions Lewis would slip silently into the darkened caboose, where, between fits of coughing, Lita babbled of snowslides and Sigurd, and urged him not to go out today.

As the hours wore on the old mechanic nodded. Lewis never batted an eye. Lawson wondered how much longer they could carry on, watched anxiously for the return of Regan.

When dawn came fresh snow fell as if the very heavens had burst and the sky were determined to bury the band who bored eternally into the slide.

At Ten the Doctor and Regan Came Over the Snow

At eight o'clock the operator brought another message:

Derailed caboose two cars MP 4.2. Compelled kill engine. Called wrecker Devil's Gateway. Track blocked west. May not return Madder before noon Wednesday. Signed, Regan.

"He won't return, then," Lewis reckoned.

"Not unless this snow quits," agreed Lawson.

AT nine Lawson took the 5729, got a workman to help him, sent Meyers and his fireman to the boarding car to rest. When Meyers returned he came to the rotary.

"You go asleep awhile, Lewis," he said.

"I've slept too damn much already, Mr. Lawson," returned Lewis with a bitter laugh.

"Go on. I'll let Meyers take your place, and I'll handle the engine."

"Ain't I doing all right?"

"Yes, but—"

"Then I'm staying on the job. I've got the edge on Meyers running this outfit."

"Don't be a fool, Lewis! You can't go on forever!"

"I'll go on until this job's done."

Lawson looked at the strained face of the young engineer, and, with a shrug, went out among the workmen.

The day passed. In the early twi-

light they returned once more to the car for their evening lunch. The sick men were much improved. For Lita Ravelstone the torch of life had become a flickering flame. Her breath was short and labored.

Lewis tiptoed into the caboose, stood with bowed head, staring silently down into the drawn face. Over by the coal chutes the 5729 uttered two short sharp blasts. Lita started. Lewis stooped, planted a hasty kiss on the pallid cheek, and flung himself into the storm.

At 10 P.M. the wires which had kept them in touch with Sleepy Valley, and with Dynamite Dan Ravelstone, who was hurrying to them, went dead. Cut off now from communication, they worked hopelessly.

At one Wednesday morning, the old mechanic collapsed. Lawson took the 5729, sent Meyers in to help Lewis with the machine.

An hour later Mrs. Lawson slid breathlessly into the cab.

"Where's Lewis?" she asked.

"Up ahead," returned Lawson thickly. "What's the matter?"

"Lita wants him. She's rational now."

With a shrug Lawson laid a hand on the whistle cord, sent three sharp blasts into the storm. Instantly the rotary echoed his signal. He backed the machine down to the station, called Lewis and followed him into the caboose.

Lita opened her tired eyes and looked up at them.

"Sigurd!" she whispered.

Lewis knelt on the floor beside her, took her cold hands in his. She searched his grimy face, searched the blue eyes into which he tried to force the old devil-may-care expression.

"Are you—all right—dear?" she whispered brokenly.

"Sure!" he croaked. "Don't I look all right?"

Lifting a hand, she stroked the grimy stubble.

"Where—are we?"

"We're down at Madder," Lewis said calmly. "Been a little slide. Having to clean it out so we can get back into Sleepy Valley. Soon be done, now."

Again she searched his face. Millie stooped over and stroked her forehead.

"You see, Sigurd's helping clear away the slide, dear!" informed the super's wife.

The girl nodded understandingly. Her lips framed a brief command. In obedience, Lewis pressed his lips to the forehead. The three watchers turned away. When they looked again, a faint smile was on her face. Her eyes were closed.

Mrs. Lawson started uneasily, moved toward the couch. The doctor laid a restraining hand upon her. Gently Lewis laid the girl back upon the pillow. Wide-eyed, he looked at the doctor.

"She's gone to sleep." The professional voice was thin. "You may go now."

LEWIS and Lawson returned to the outfit. Every man on the crew was dozing. Lawson called Meyers. The engineer did not answer. Lawson fished out a cigar.

"Maybe we'd better let 'em sleep till daylight," he mused.

"Not tonight!" The engineer's voice was determined.

"Why not?"

Cigarette between his lips, Lewis reached for Lawson's match.

"When did you look in the coal bin?"

Lawson started. Another wrinkle

came into his forehead. He watched Lewis flip the match into the deck.

"You aren't telling me the coal's giving out?" he queried.

"There *might* be enough to last till we get through," returned the engineer. "And, besides"—he swept his hand toward the south—"when this snow quits the wind will start. There's snow enough on Big Bear to bury us so deep they couldn't find us till Dominion Day."

All through the night and the sunless Wednesday they listened for sound of bell and whistle. And while they listened, they worked as never men worked before. By nightfall less than two hundred feet yet remained to be done.

At twilight they backed into Madder for more coal and water. The snow had ceased. The wind was moaning down the canyon, its voice rising with each passing hour. And a lone star was peering through the white billows which rolled overhead.

Lawson went with the two engineers to look over their coal. In the flare of the torch only a few tons showed where the section men had cleared snow from the bin.

"It'll last till noon tomorrow," guessed Lawson.

Meyers cocked his eye up at the scurrying clouds, listened to the rising wail of the wind.

"If we ain't outa this hole by noon tomorrow, coal won't make us a helluva lota difference," he muttered.

Wearily they went into the car for more strong coffee. Their faces were streaked with grease; their lips were cracked and bleeding, eyes red like raw steak. Without a word they gulped the few bites and started back.

Mrs. Lawson met them at the door.

"How is she?" queried Lewis.

"She's slept all day," evaded the woman.

Lewis looked longingly at the closed door of the temporary infirmary. Mrs. Lawson placed a hand on her husband's sleeve.

"Why don't you rest tonight, dear?" she suggested. "You look as if you couldn't go another hour."

"We ain't tired," lied the official, giving the hand a reassuring squeeze.

With a smile of understanding, the railroad woman returned to her charge. Lawson and his men shuffled back to the engine.

The temperature dropped to thirty-five below and kept going down. Wind wailed overhead. Every hour the men had to back into Madder to keep their tracks cleared of drifts.

As the night wore on, some among the section men began to curse and grumble. For the most part they carried on in grim silence, working, waiting for the crash which now seemed inevitable.

WHEN daylight came the bitter sun strode into a cloudless sky. Men paused from their work to cast frightened eyes upward at the sight.

Off to the south, as far as the eye could see, white peaks rose tier on tier across the high horizon. On every peak was snow whose depths men dared not reckon. And down from the white brow of Big Bear Mountain, traced on its precipitous sides as blue-white shadows, gorges filled to the brim pointed toward the narrow trench where they struggled. Eyes grew wider at the sight, and a chill, not of the cold, drove hardy mountain men to their bitter task.

Eight o'clock, and again they were in Madder. Lita Ravelstone heard the engine stop at the tank. She began call-

ing for Lewis. When he came, she glanced up with a smile of greeting.

"Why do you work night and day?" she queried feebly.

"We'll be through by noon," he countered.

He did not tell her that long before the noon hour came they might be frozen statues encased in graves of battered ice.

Anxiously Lawson and the two engineers scanned the half-filled tenders.

"Will it last, boys?" asked the super.

"Last till it gives out," jeered Lewis.

"It won't last long enough, though."

Cyclone Meyers spoke with a tremulous note. His bluster was gone.

With a harsh laugh Lewis boarded the rotary. Lawson followed. They closed the steel door. Lewis latched it shut, opened his throttle, set the huge knives roaring. The conductor signaled ahead. The exhaust barked, and for the last time they eased away through the cut, ice scraping the rotary hull from sill to roof with a grating sound.

On, still on, they ate their way into the icy tomb. Ahead! Easy! Stop! Back!

No sleep was in their eyes now. With the dazzling sun on high, with the bitter wind howling around, one purpose only moved them—to gnaw out the sixty feet which still remained, to grab the caboose which stood on the main at Madder, to stagger out of the canyon before their coal played out, or the snow on Big Bear started slipping.

At half-past nine a dozen feet of the sixty were behind. And a cloud was crawling across the face of the frozen sun. An hour later thirty feet remained to be finished. The sun was buried deep in seething billows.

Again and again the superintendent passed the boiler to measure with his eye the dwindling pile of black diamonds, to stand atop the tender and peer into the west for smoke from the long expected relief train.

"If Regan don't come soon we're stuck," he told Lewis once.

At 11.05 a startled cry rang through the gorge. Despairing voices took it up and echoed it from hill to hill.

"The slide! The slide!"

Above the wail of imprisoned steam it rang, above the cough of the exhaust, and the beat of frantic feet on the rounded roof, and the roar of the idling rotary.

The tenseness left Lawson's face. He stumbled back along the boiler to gain the top of the tender. The fireman was already there. Cigarette between his lips, Lewis sauntered out to join them. Emotionless as the cold steel beneath his feet, he watched and listened.

Through the gorge a hurricane was sweeping. It had turned snow into a raging blizzard. Wind shrieked. The sound grew. It came no nearer. After awhile it died away. The men looked questioningly at each other.

"It must have struck farther up the canyon," Lewis said calmly.

"Let's git this mess cleaned before the next one comes," urged the fireman.

Eagerly they pushed through the last few feet. A dead calm settled over the canyon. Snow spilled out of the heavens.

Cyclone Meyers crowded them forward. Twice Lewis had to signal him down, lest the pressure buckle the machine ahead of its tender.

Shortly after noon the machine shot forward in the drift-filled cut which Regan had made there Monday. A joyous shout went up from the men. The task was done!

THREE miles from the slide the relief crew came upon them late that evening, stuck fast in a snowdrift where they had run out of coal trying to make Sleepy Valley. With Regan trailing like a hound on leash, Dynamite Dan Ravelstone, gray face lined with dread of what they might find, wallowed through the drifts to the caboose.

Flinging wide the door, he stood upon the threshold, shaking snow from the bearskin great coat. In one sweep his eyes took in the group in the caboose.

In the forward end, Lawson was stretched full length on the bunker sleeping. Beside the stove Millie was brewing broth for her patients. She smiled sweetly at the changing emotions written on the ruddy face of the king of the V.R.M. & E.

Sigurd Lewis, his red-rimmed eyes gleaming with their old dash and swagger, was holding the white hand which lay atop the conductor's faded army blanket. Lita was lying placidly under the blanket. She turned a smiling face toward her foster parent, who scowled down upon her.

What the old man might have said, none ever knew. He blinked his eyes many times, and the blinking seemed to polish them with a vicious gleam. He blew his red nose into a green-bordered handkerchief. But when he spoke it was in the character of the hard-boiled dictator of the rails.

"I'd like somebody to explain to me," he demanded, thrusting a pair of short thumbs into the armholes of a checkered vest, "how in the hell one crew could clean out a thousand feet of slide in less than four days. Ordinarily—why, dammit—"

Three blasts of a locomotive whistle interrupted him. An exhaust blared as drivers spun on snowy rails. Dynamite Dan did not resume his comments. In a glance his observant eye told him the story. Somehow he understood what finally had happened to Lewis, understood what that meant to Lita. There was really nothing else to be said.

The relief crew started to drag the 5729 into Sleepy Valley, carrying with the others in the dimly lighted caboose a girl who was happier than she had ever been before and a young engineer whose soul had been born anew in the chasm of Bear Creek Canyon.

Next Month—"BROKEN LINKS" by E. S. Dellinger

WHY BARNUM USED THE RAILROAD

IN 1872, before he decided to move his "Greatest Show on Earth" along the high iron, P. T. Barnum used 600 horses, the upkeep of which was threatening the circus with bankruptcy.

"I see the show is too big to drag from village to village by horse power," he said, "and I have laid my plans accordingly. If I can do this with sixty or seventy freight cars, six passenger coaches and three engines at a reasonable figure I will do it."

The figure proved to be "reasonable," but Barnum said later: "The idea of attempting to transport by rail any company or combination requiring sixty-five cars to be moved daily from point to point was such a great experiment that railroad companies could not supply my demands, and I was compelled to purchase and own all the cars."

Thus originated the modern method of moving great circuses by rail.

Two Rival Engine Builders

By CHARLES E. FISHER

President of the Railway & Locomotive Historical Society, Inc.

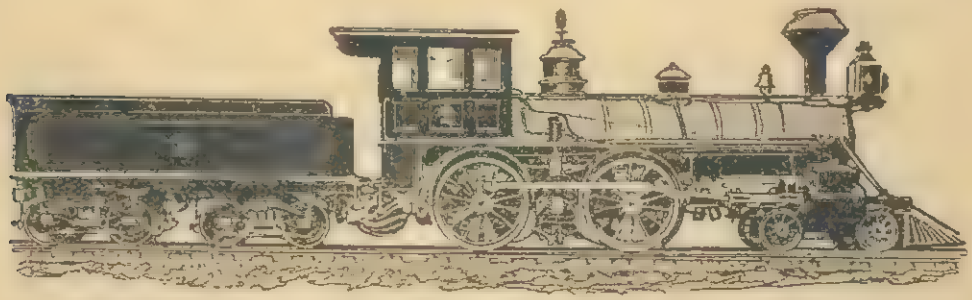
IN the southeastern part of Massachusetts, not far west of Plymouth, is located a medium-sized manufacturing city called Taunton. Today it is just another town on the line of the New Haven Railroad, but it used to be a veritable city of iron horses. For nearly half a century its two locomotive building plants, separated only by railroad tracks, turned out their engines for railroads in all parts of the world.

These locomotive works were well-known to every old-time railroad man, many of whom still fondly remember the engines they made. Both were known for the excellence and advanced design of their locomotives; both were famous wherever steel trails were to be found, wherever iron horses ran. Best known of the two, perhaps, was William Mason. The other was called the Taunton Locomotive Works.

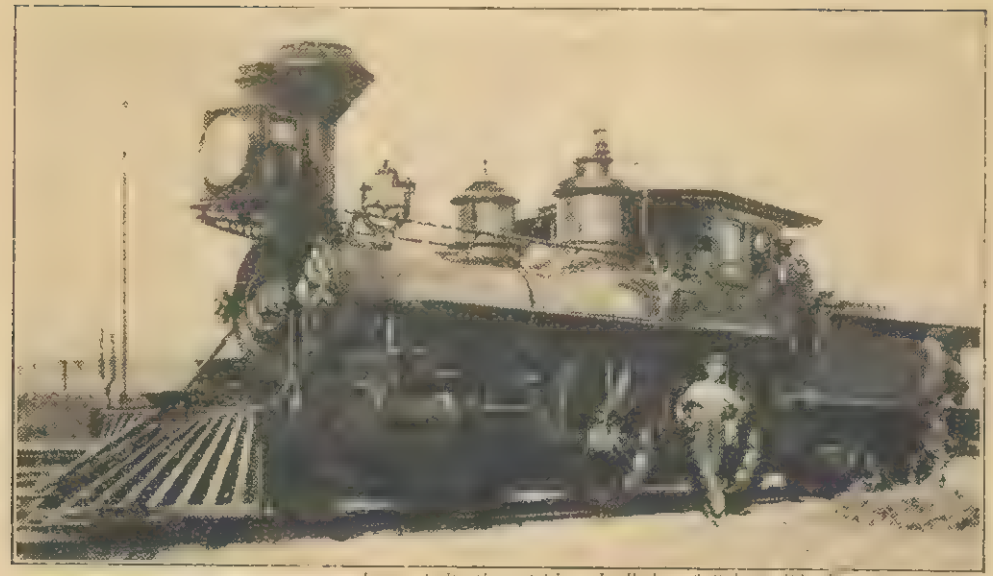
The Taunton Works was founded by W. W. Fairbanks, an energetic and capable mechanic. Unlike Mason, he did not give his own name to his firm, and it was always called the "Taunton" Works, even after his death.

The first engine built by Fairbanks was completed May 29, 1847, for the Eastern Railroad, now part of the Boston & Maine. It was named the "Rough and Ready." The carpenter had sawed off the boards which enclosed the cab on top of the newly painted tender. The sawdust had stuck to the side of the tender, and another coat of paint had to be applied. When Fairbanks asked if the engine were ready for shipment, the reply came that "she was rough, but she was ready." The phrase appealed to Mr. Fairbanks, and the name "Rough and Ready" was given her. She carried it for years.

This was the first of nearly one thousand engines built at this plant. The early locomotives were inside-connected, the majority going to New England roads. All were noted for their speed, good valve travel, boiler capacity, and smooth running. They



No. 2 of the Boston, Hoosac Tunnel & Western (Now Boston & Maine), Built by the Taunton Works in 1879, Was Its 694th Engine. She Was Equipped with Air Brakes, and Had 17x24 Cylinders and 63-Inch Drivers



From Collection of Chas. L. Fisher, 6 Orkney Rd Brookline Mass

This Graceful Eight-Wheeler Was No. 16 of the New York & New England (Now New Haven), Made by Taunton in 1865

were frequently criticized for being loose jointed, but whether or not this was due to the ignorance or carelessness of the builders, no one has been able to determine.

A few Taunton locomotives had very interesting careers. The "Mount Holly," built for the Rutland & Burlington (now Rutland R. R.) on Sept. 6, 1849, drew the first train north, inaugurating passenger traffic on that road. In the seventies she was sold to the Burlington & Lamoille (now Central Vermont), where she was renamed "William Hale." In 1881 she was altered to burn coal, and was not scrapped until 1898.

The "Oneida," built for the Hudson River Railroad (now N.Y.C.) on June 21, 1851, was a noted engine, and figured in many accidents and lawsuits. In January, 1856, while drawing the night express train from Poughkeepsie, N. Y., she plunged into the Hudson River, killing the crew and many passengers. She was scrapped about 1870.

The "St. Albans," ordered by the Central Vermont, was assigned to its Rutland Division, whereupon she was renamed "Shelburne." The engine was completed May 31, 1869, converted to a coal burner around 1880, was sent to the Norwood & St. Lawrence Railroad and carried the number 204. She was rebuilt by the New York Locomotive Works at Rome, N. Y., sold to the Hannawa Pulp Co. of Potsdam, N. Y., as their No. 2, and was still in service in 1915. In her long career on the Rutland she never had an accident and never failed to return to the engine house under her own power.

WILLIAM CROCKER, president of the Taunton Works, and S. M. Felton, president of the Fitchburg Railroad, were very much interested in using coal for fuel. An experimental coal-burner was built and tried on a passenger train of the Boston & Worcester (now Boston & Albany),

loaded with emigrants for Kansas. A few miles outside of Boston the fire died down and finally went out altogether. A new engine was summoned, and amid the jeers of the emigrants the coal-burner was cut off and the train continued to Worcester. It was afterward found that a damper had accidentally closed, thus reducing the draft, but she had made a bad name for herself and was finally sold at a loss.

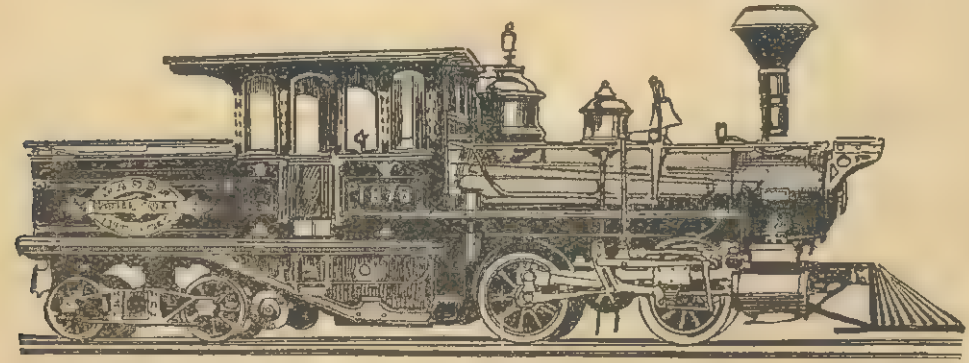
Two years afterward another coal-burner, the " Daniel Webster " was delivered to the Philadelphia, Wilmington & Baltimore (now P.R.R.), of which Felton was now president. This engine was the first successful coal-burning engine in the country.

The heaviest engines constructed at the Taunton Works were the Consolidation type. The Union Pacific was its best customer. It bought 153 Taunton " mills." Seventy-one locomotives were delivered to the Atchison, Topeka & Santa Fe, and about 40 to the Central R.R. of New Jersey.

On several engines built for the Alabama & Chattanooga Russian iron was used on the boilers, together with brass bands and fancy painting, in addition to the customary black walnut cabs. These cabs were upholstered, and glass plates were fitted over the engine names on their sides.

Fairbanks died shortly after the Civil War. P. I. Perrin succeeded him as superintendent. He was an able

A Typical Early Mason Engine Was the "Nashua," Constructed in 1866 for the Boston, Lowell & Nashua (Now Boston & Maine). Note Her Well-Balanced, Symmetrical Lines



Here Is Mason's Famous "Centennial" Engine, Built in 1876 and Displayed in the Philadelphia Exposition That Year. Master Mechanics of the Day Said "She Had Too Many Parts to Be Any Good," but She Got Considerable Attention and at the End of the Exposition Went to the New York & Manhattan Beach R.R.

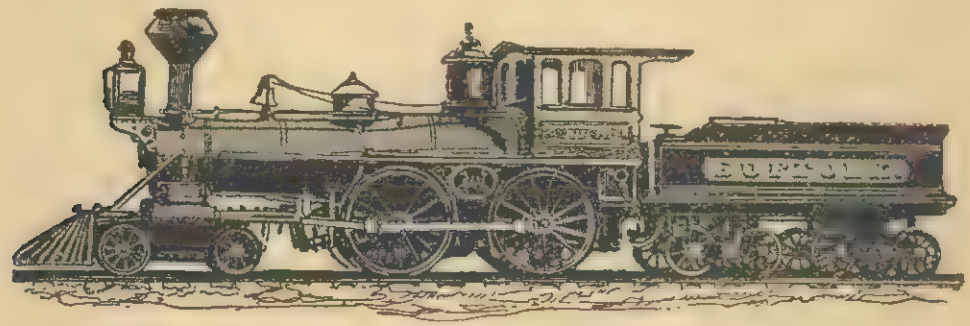
man, but his successors were men of small vision and little foresight. In 1890 the last locomotive was rolled out of the erecting shop and delivered to the Boston, Revere Beach & Lynn. The biggest year in its history had been 1881, when 60 engines were constructed.

WILLIAM MASON, the other locomotive builder of Taunton, might have been a successful artist or painter. He chose to be a mechanic, but his other tendencies account for the beautiful lines of even his first engines.

Before he made locomotives Mason was a successful manufacturer of cotton and woolen machinery, gearing, shafting, car wheels, etc. During the Civil War he turned out 600 Springfield rifles weekly.

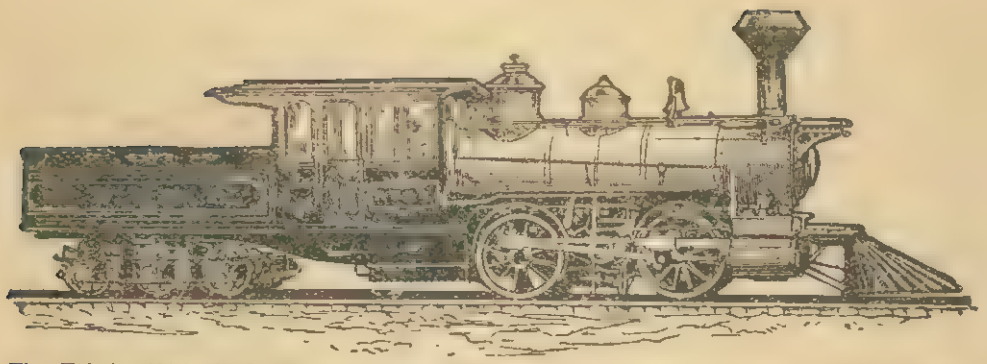
He believed that strength and beauty in machinery could be combined to advantage. He was respected as a man of good taste. Upon learning that he was considering building locomotives, an admirer of his work stated: "We will soon see something on rails that does not look like a cook stove on wheels."

Mr. Mason's first locomotive was the "James Guthrie," completed on October 11, 1853, for the Jeffersonville Railroad. At that time the engines from the Rogers Works at Paterson,



The "Suffolk" Was Different from Most Mason Eight-Wheelers: Her Large, Three-Windowed Cab, Tall Steam Dome and Short Smoke Stack Were Variations from the Usual Mason Style. His 503d Engine, She Was Built in 1873 for the Boston, Lowell & Nashua, Had 66-Inch Drivers and 17x24-Inch Cylinders

An Excellent Example of Mason's Careful Design—Even His Switch Engines Were Well-Proportioned! This 0-4-0, the "W. B. Sproat," Was Constructed in 1872 for the Taunton Branch R.R.



The Toledo, Wabash & Western (Now Wabash) Wanted a Locomotive That Had Fancy Trimmings as Well as Good Lines, So Mason Gave Them the "Hero," a Highly-Polished, Brightly Painted Old Girl That Just About Knocked Their Eyes Out. She Was Built in 1874, Had 15x22-Inch Cylinders and 48-Inch Drivers, and Was Mason's 525th Engine.

N. J., and M. W. Baldwin of Philadelphia were the most popular. To Mr. Mason the inclined cylinders of the early engines resembled grasshoppers and their brass work and fancy painting an overdressed woman.

The "James Guthrie" had outside horizontal cylinders. Her cylinder heads were made hollow to provide air space and were polished to prevent radiation of heat. Her valves employed a shifting link motion of a pattern practically the same as used today. She was 4-4-0 type. To read her specifications one cannot but be impressed with Mr. Mason's advanced ideas, many of which are still in use.

She was similar to the "W. G. Armstrong," Mason's second engine, a picture of which appeared on page 36 of the December, 1933, issue of RAILROAD STORIES. The "W. G. Armstrong" was also built for the Jeffersonville Railroad.

Even in the shops of his rival Mason was respected and admired. One fine April day in 1854, when a new Mason engine, the "Worcester," rolled out of the yard with its bright red stack, all the employees of the Taunton Works left their tasks to have a look at the rival locomotive. To say that Fairbanks was disgusted is not saying half enough.

In 1856 Mason built two locomotives for the Cairo & Alexandria Railroad of Egypt. The engines were tried out, like all of the others, on the Taunton Branch Railroad. On her trial run one of them ran four miles in three and a half minutes, from start to stop. Remember, although she carried no load, she had no air brakes, and had to be hand-braked to a stop.

A visitor to the plant at the time these locomotives were being built stated: "Every part is planed and shaped with such exactness that it fits at once, without filing or wedging; and the boring is so perfect that the bolts fill the holes and are driven and allow no chance for working loose."

The sleek, good-looking "Missouri," delivered to the Hannibal & St. Joseph Railroad in 1858, was another Mason triumph. It pulled the mail train in connection with the "Overland Mail," and made a run that was not beaten for fifty years afterward.

Some of Mason's engines were in the habit of passing the works of another builder daily. This builder obtained the railroad's permission to take measurements of the Mason engines.

"Huh, if I had known that he wanted that information, I'd have saved him the trouble and sent him a set of drawings," Mason remarked when he heard of it.

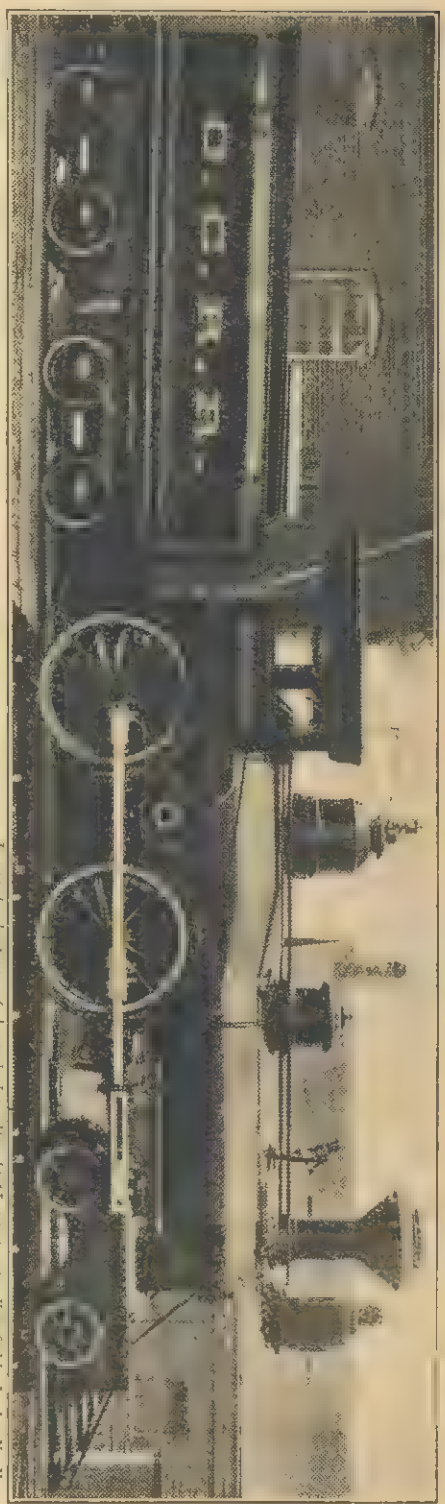
IN the June, 1933, issue of RAILROAD STORIES was printed a photo of the "Janus," a "double-ender" engine. This was, perhaps, the only freak Mr. Mason ever made. She was completed in 1871, and after being tried on the Boston & Providence and the Boston & Albany, was finally sold to the Lehigh Valley.

She saw some service on that road, but was cut up and two shop engines made from her. She was not a success because she could not carry enough coal and water, but one of the characteristics of the Mallet type—two engines from one firebox—was a part of her own design. This was before a Mallet type ever was built.

Believing that the newly-built western roads could use to good advantage the type of engine designed by the Englishman Robert F. Fairlie, Mason set about improving this type for American roads. The main features of the Fairlie type were the double boiler with firebox at the center, and two driving trucks with the cylinders at the outer ends. The "Janus" was a Fairlie type.

But Mason, except in the "Janus," did not use a double boiler. He built the tender on the engine frame, somewhat as tank type engines are today. He applied pony trucks to save flange wear on his drivers. Then he arranged to have his drivers swivel on a pin, as does a car truck, and lastly he used the flexible steam pipe connection.

Mason called these improved engines Bogies, and by no other name do they appear on the records. He constructed



Although She Looks for All the World Like a Mason Job, This 4-4-0 Type Was Made at the Taunton Works for the Old Colony in 1880

From the collection of Joseph Lucke, 1013 north st., Winfield L. I., N. Y.

more than 100 such locomotives. Prior to the electrification of the Boston, Revere Beach & Lynn, engines built from the same patterns and drawings which originated with William Mason could still be seen in service.

He first adopted the Walschaert valve gear on this type. It was said that one of the reasons for his favoring this gear was that the cylinders on his Bogies were so close to the drivers that the Walschaert gear was found to work best. At any rate, his first locomotive using it was the "William Mason," built for the Boston, Clinton & Fitchburg (now New Haven) on September 5, 1874. Mason tried for a long time to get the Master Mechanic's Association to adopt the Walschaert gear as standard, but was unsuccessful. Today it is used more than any other type. Such was the foresight and good judgment of the man.

But his Bogie engines never became very popular. Bigger and heavier equipment and long runs calling for huge tenders made them impractical.

He is given credit for many improvements in locomotives. Here is a list of them:

Bringing the cylinders to a level.

Making the driving wheels with hollow spoke and hollow rim, pouring in lead for counterbalance.

Spreading the truck wheels.

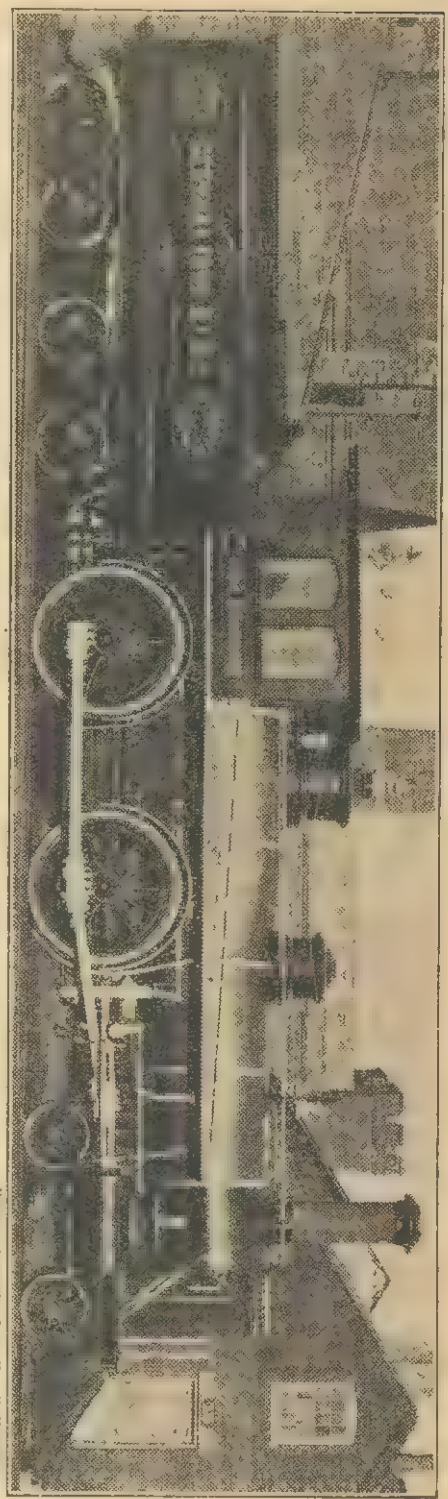
Introducing the conical staybolt for the crown sheet.

Designing the arrangement of wedges in the jaws of driving wheel boxes.

Improving the appearance of the locomotive.

Popularizing and setting the style for the 4-4-0 or American type engine. For years afterward builders merely increased the dimensions; Mason had perfected the essential design of the type.

Mason locomotives were pretty much scattered over the country. Forty-nine were delivered to the Lehigh Valley, 34 to the Lake Shore & Michigan Southern,



Mason Built Several Eight-Wheelers for the Central Iowa Ry (Now Minneapolis & St. Louis). This Is No. 26, "Chas. Alexander," Finished in 1880

From Joseph Lavelle Collection

One of the First American Engines to Be Equipped with the Walschaert Valve Gear, the "William Mason" Was a Bogie Type. She Had 16x24 Cylinders, and 42-Inch Drivers, and Was Scrapped in 1887

30 to the Toledo, Wabash & Western (now Wabash), and 21 Bogies for the Denver, South Park & Pacific, "The Great Old South Park" (see page 46, December, 1933, RAILROAD STORIES).

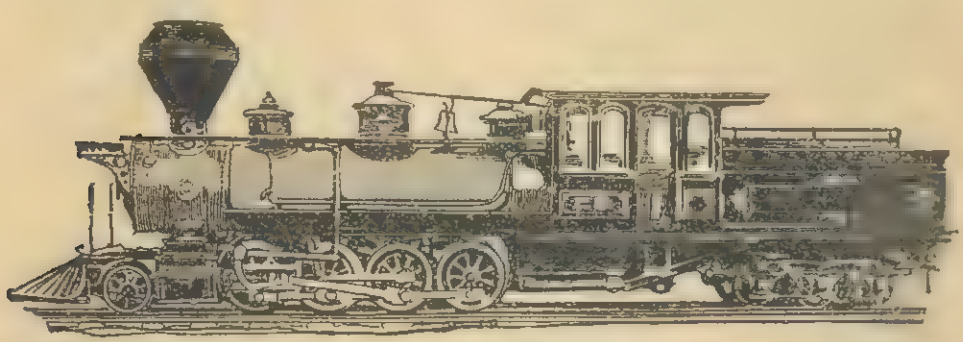
Early in 1884 the Columbus & Eastern Railroad (now N.Y.C.) was unable to pay for a locomotive it had ordered, so the engine was sold that summer to the Old Colony Railroad. In changing her to comply to Old Colony standards at the roundhouse in South Boston, Mason caught cold which developed into pneumonia, from which he died.

From the time of his death up to 1889 forty-one locomotives were built. The last one, a Bogie, was delivered to the Old Colony in March, 1890.

Even during the period of locomotive construction his shops had continued to build cotton machinery. When locomotive construction stopped, cotton machinery constituted the bulk of the output. Since the Great War the old firm has practically dissolved, and now its buildings, like those of the Taunton Locomotive Works, are rapidly going to rack and ruin.

About William Mason nothing more to the point can be said than the words of M. W. Forney:

"He was a wonderfully ingenious man, and he combined with his ingenuity a high artistic sense, so that his work was always most exquisitely designed. His locomotives were melodies cast and wrought in metal."



This Old Girl Was a Unique Combination of the Consolidation and Bogie Types. She Was Made in 1880 for the Three-Foot Gage Denver, South Park & Pacific, Was Mason's 632nd Locomotive, and Was Named "Denver"

Wood Slides in the Sierra Nevada Mountains on the Central Pacific Sixty Years Ago. Due to the Difficulty in Building Mountain Paths to Bring Wood Where It Was Needed, the Railroad Company Used to Construct Slides, Some of Them Three Miles Long. This Dangerous Method Was Abandoned after Several Men Had Been Killed

Setouts and Pickups

By W. F. KNAPKE

EARLY thirty years ago an amusing incident happened at Calexico, Calif., on the Mexican border. A certain stretch of "Es Pee" track was used as an engine track, there being no roundhouse. Three or four car-lengths from the border, on the Mexican side, stood an old-type ventilated fruit car which the Mexican police had converted into a jail.

That section of Mexico was the land of *mañana* (tomorrow). Any person who happened to be arrested might get a trial in two or three days, or perhaps wait that many months, depending upon when the spirit moved the local officials.

An American boomer—I think his name was McGovern, just off the Santa Fe—had been arrested for stealing a pair of shoes. Whether or not he was guilty I don't know. At any rate, McGovern was kept in that lockup for six weeks without even a trial. Any one who has been in the Imperial Valley in summer time knows that six weeks of confinement in a car is plenty long.

The "rails" at Calexico were naturally sympathetic, and talked the matter over. Finally they "borrowed" a long rope from a pile-driver outfit. One of them slipped over the border and attached this hawser to the drawbar of the jail car. The other end, on the American side, was fastened to a locomotive, which was then moved ahead, drawing the jail over the line. Once in the United States, the lock was broken, the prisoner released, and the car "kicked" back into Mexico.

* * *

IN days of yore, when Rule G was observed more in the breach than the performance, a fellow named "Circus" Doyle boomed through the West. Circus had been fired from every big road west of the Mississippi. He landed at Pocatello, Idaho, and hit the yardmaster for a job.

"Nothing doing!" responded the Y.M. "I'd only have to fire you again in two days for boozing."

"No, sir," said Circus, "I've reformed!"

"All right," agreed the Y.M. "You go and see the Old Man and if he says to put you to work, it's O.K. with me; but I won't hire you on my own hook."

So Circus went up to the super's office and the big argument came off. Finally the super said:

"Circus, if you can show me just one good clearance (service letter) from any road, I'll put you to work."

"It's a bet," was the answer. "I'll go and get one from my grip."

Circus walked around town until he came to a Chinese laundry. There he cut, with his knife, a piece about ten by fourteen inches from one of those yellow sheets covered with Chinese characters. Then he proudly went back to the super's office, walked in, and slammed it down on the desk in front of the Old Man, saying: "There, damn it!" The brass hat looked at it through his glasses, and then up at Circus.

"What's this?" he queried.

To which Circus replied: "Why, that's a clearance from the Hongkong Central, you so and so; can't you read?"

* * *

SOME readers may want to know why a conductor is called a "big ox." The order of Railway Conductors has an official button or pin containing the letters O.R.C. intertwined. The letter O is usually in white, thus making it more conspicuous than the others. Consequently, the conductor is sometimes referred to as "The big O." An irreverent brakeman added X, presumably referring to the conductor's dumbness—a matter I will not dispute.

* * *

YOU find many surprises on the iron road. Almost anything is likely to happen. One afternoon a mixed train on the Tennessee Central pulling into a tiny mountain hamlet which was its "turn-around" terminal was met by a native who asked:

"Did the sky pilot come on this train?"

"No," was the reply.

The native was disappointed. "We're havin' a funeral in town," he said, "an' there's nobody to officiate."

"I could do that job for you," volunteered our conductor, whom I will call Jim Blanton.

Jim was one of the finest-looking men I knew, and also the most profane. He could cuss longer without repeating than any artist I've ever heard—and, brother, that's taking in a lot of territory! I was surprised when Jim offered to assist at a burial service, but was even more amazed at the way he did it.

As the coffin was borne to the grave, the O.R.C. took off his tin-plated hat, looked around at the mourners, and then, without book or paper to refresh his memory, recited that beautiful service which begins: "I am the resurrection and the life . . ."

His voice was full, round and sympathetic. There were tears in many eyes. I never attended a more impressive service. Afterward I learned that Jim was a theological college graduate; for two years he had been a minister but had given up the work, for some reason, and turned to railroading.

* * *

A FEW years back, you could ask for a match or a chew from almost any brakeman on a Western mountain railroad, and be told he did not have it. But if you asked for a toothpick, he'd hand one over without fail. Why the universal supply of toothpicks? Here's the answer:

Due to the long grades and heavy braking, cracked wheels were a common occurrence. While the wheel is still hot the crack will show plainly, but after it has cooled the crack is sometimes invisible. So the brakeman would stick a couple of toothpicks into the crack, cut out the air on that particular car, and if wheel were considered not too bad, the train would proceed. At the destination, the toothpicks enabled "car toads" to locate the crack easily.

* * *

BEFORE the days of signal oil and kerosene lanterns, lard oil was used in lanterns. This oil had a high solidifying point, and in cold weather it hardened so that the wick could not draw it from the fount, with the result that flame would die out. To overcome this, a copper wire shaped like a hairpin was fastened through the burner. The closed end of the "hairpin" was in

ALL RIGHT, IF YOU'LL PROMISE NOT TO TELL TH' PRESIDENT OF TH' ROAD, I'LL LET YOU OIL ONE OF TH' CUPS THAT YOU CAN REACH .
AN EMBRYO LOCOMOTIVE ENGINEER GETS HIS BIG OPPORTUNITY—
WEBSTER

© 1933 N. Y. Herald Tribune

The Thrill That Comes Once in a Lifetime

the oil, while the open end had the points bent toward each other at such height that the flame reached and heated them. As copper is a good conductor of heat, this simple device kept the lard oil from congealing.

Here is a tip to those who have trouble with their lanterns smoking,

light going out, etc. If your road uses signal oil, empty the fount once a week, change wicks every thirty days, and blow the top of your lamp clean two or three times a month. Signal oil in small quantities seems to lose its strength in a short time and a wick loses its capillary action.

* * *

WHAT would you do if you were a stickler for the Book of Rules and received an order reading, "Meet an extra ENGINE UNKNOWN at Z"? Looks sort of dangerous, doesn't it? But in this case Z was a two-car spur used exclusively for helper engines which were to meet and help trains up a hill in Colorado. The order was put out so far in advance that the dispatcher did not know which engine would be available.

Here is another unusual order. That is, it would be unusual now, but was common enough on a Southwestern road many years ago. The order would read:

Engine 000 run as No. 29 A to Z. Should No. 29 become 12 hours late, engine 000 will run extra from such station to Z.

I'll bet there are lots of old-timers who remember the above order. However, the gem of all train orders that I have ever seen was issued by Dispatcher Beatty of the Southern Pacific, Los Angeles Division. In it were incorporated fourteen trains, twenty-one train movements and an annulment—all in one "31" order! I still have a copy of it.

* * *

THE early hand brakes on freight cars were only on one truck. Usually the bottom rod bolt through the outside brake beam had a coil spring between the nut and brake beam. This arrangement tended to keep the brake from being set tight enough to slide wheels.

The result of this coil spring was that setting a brake was like winding an old-fashioned watch. You had to wind until your tongue hung out, and then wind some more.

A caboose I saw in a moving picture some time ago must have had one of those brakes, for the conductor and the rear brakeman wound on it for ten miles, during a runaway down a mountain, and were still winding on it when they passed out of the picture. I nearly died laughing.

The swing man was frozen to a brake on a box car and never moved from the one brake. I can't say I blame him much, for that drag sure must have been rambling. Evidently they were going so fast that the car "swapped" ends several times, part of the time the brake was on the up hill and part of the time on the down hill end.

That was the same road where an operator "hooped up" orders to the engineer and then walked back in the depot. Probably he was mad at the conductor and wouldn't give him any. A few scenes later, the hogger stopped the limited between stations in order to put a pair of overalls on a cute kid who lived near the track.

And then in the same film the signal man in an interlocking tower ditched the runaway train and saved the limited. But instead of merely pulling a lever, as he could have done very easily, he grabs a claw bar, goes down and pulls a few spikes, breaks a joint, pries a rail over and, *bingo!* the limited is saved! What an unholy mess some of the motion picture people can make of railroad scenes!

HOW many "rails" of the younger generation know that the universal hailing sign of railroad men—the closed fist with the thumb pointing upward—was used in the link-and-pin days when one switchman or brakeman wanted his partner to bring him a coupling pin?

If he wanted a link, he made a "lazy" U with each hand. That is, he curved his hands with the thumb at the bottom and fingers at top, so each hand formed a half circle or U on its side. Then he moved the hands toward each other and withdrew them, doing this several times. That was the sign for a straight link. For a crooked link he thrust his hand forward, but midway of the thrust he would raise the hand a few inches and complete the thrust at the higher elevation.

* * *

DID you ever see or hear of a "Sweeny"? In days gone by, before air pumps had attained their present efficiency, air failure from defective pumps was nothing uncommon, and the "Sweeny" (invented by a freight brakeman by that name) was designed to overcome such failure when descending long grades. The device consisted of a pipe running from one end to the other end of one of the locomotive's cylinders. This pipe had a check valve in each end of it, and midway of its length another pipe was joined to it. This latter pipe led to the main reservoir. The second pipe had a simple cutout cock attachment which could be opened or closed from the cab. In case of pump failure the engineer simply "put her in the breeching" or, in other words, put the reverse lever in back up position, opened the cutout cock, and had a highly efficient air pump.

* * *

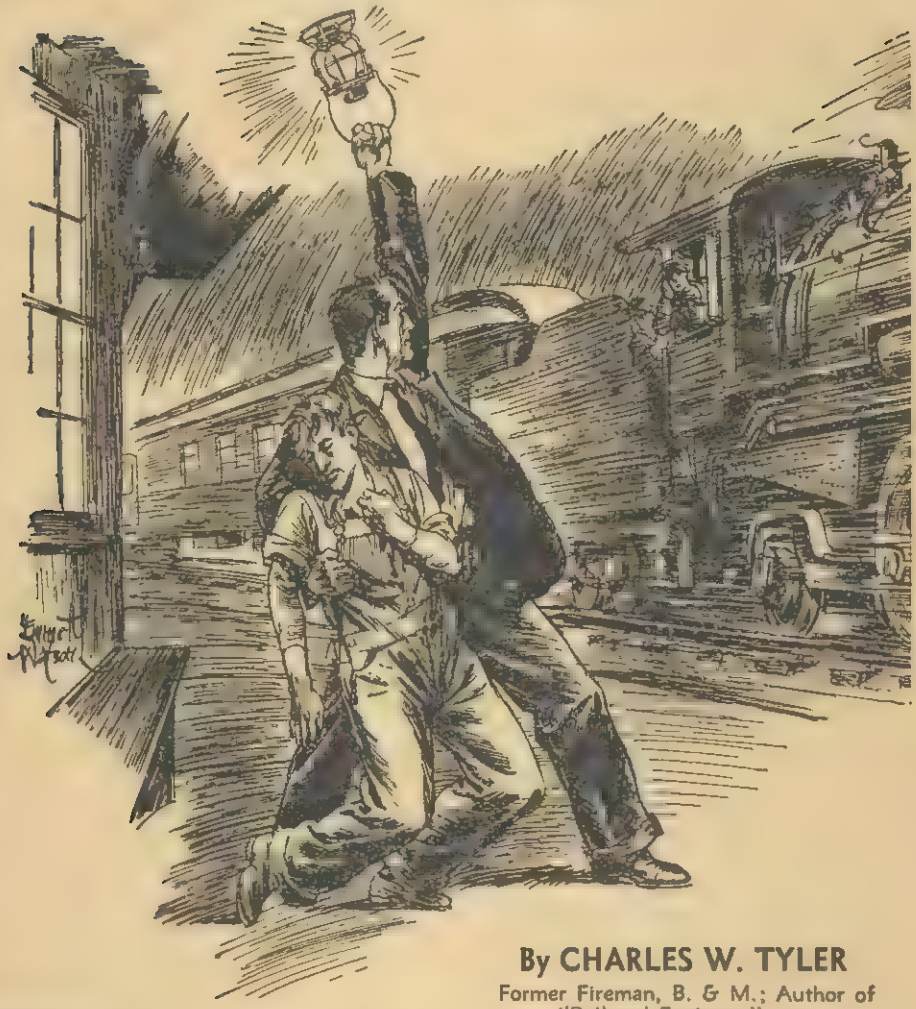
I WONDER if any old-timers recall an automatic coupler that was used on M.D.T. line cars fifty years ago? This coupler looked like a box with one end out, bolted to the end of the car. Suspended in this box was a link with a slot like the slot in one of the old "pilot bars." The rear—the part that was in the box—was solid but with a triangular piece that stuck down.

If you coupled to a plain link-and-pin drawbar, you simply let this tongue or link go in the plain drawbar and coupled with pin as usual, but if two of these "automatic" couplers came together, the tongue of one would ride over the other and this triangular piece would engage in the slot, thus coupling the cars. The tongue was suspended by an axle or shaft so that it could be "rocked" up and down. To uncouple cars, you "rocked" the tongue.

OLD RAILWAY BELL IN SERVICE SINCE 1839

FOR ninety-five years the world's oldest railway bell has been hanging outside the door of the signal box at Hebden Bridge East on the main line of the L. M. S. in England. This bell bears the inscription: "Manchester & Leeds Railway Co., 1839." Even today its gong announces the approach of every passenger train which stops at that point. During its long period of service the veteran is said to have sounded more than three million times, and it is still going strong. Until recent years such bells were as common in English railway stations as bells in churches and country schools are today.

Clear Iron

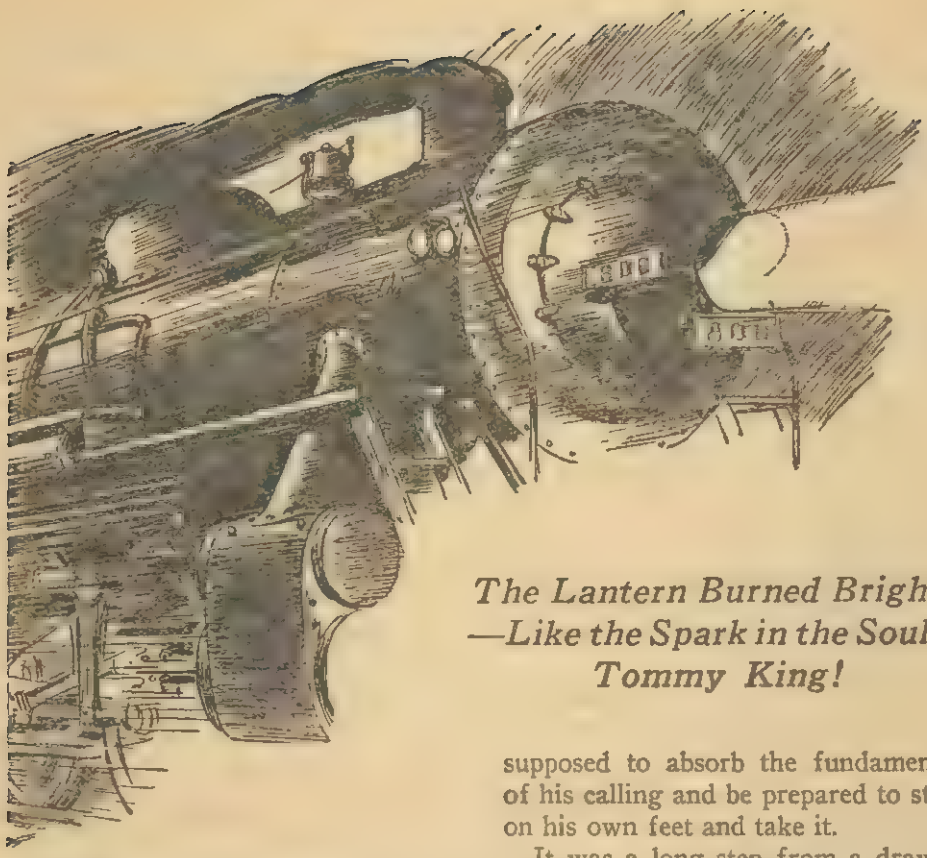


By CHARLES W. TYLER
Former Fireman, B. & M.; Author of "Railroad Engineer," etc.

WHEN Tommy King marked up on the spare board at Lynchburg, on the Central Valley's River Division, he was a gaunt, pinch-faced youth with big, round, scared-looking eyes. Fresh from a heating engineer's office in Boston, where he had been employed as draftsman, Tommy suddenly found himself in a strange smoky world of steam and steel.

A dry, hacking cough indicated lung trouble. The doctor had advised that he go to Arizona, but Tommy shook his head, saying it was quite impossible. He had no money. Besides, a mother and sister depended on him for support. These two facts he explained to the doctor.

"Well, you'd better do something that will keep you out of doors," the man of medicine had said, adding as an



The Lantern Burned Brightly —Like the Spark in the Soul of Tommy King!

afterthought: "Why don't you try the Central Valley Railroad? I hear they are putting on brakemen in the freight service. It isn't hard work, and the job would pay as much as you're getting now."

In those days there were no particular regulations for a man's physical condition. If the applicant had all of his arms and legs, could sort out a few colored yarns, tell the difference between a red light and a green one, and had normal hearing, as established by the tick of a watch held at a certain distance, he was considered eligible.

So Tommy was hired. Having been provided with a book of rules, a time card and a switch key, he was turned over to the tender mercies of his betters. In a few brief days he was supposed to absorb the fundamentals of his calling and be prepared to stand on his own feet and take it.

It was a long step from a drawing board to the wind-swept, cinder-stabbed hurricane deck of a hurrying freight train. The booming trains, the swaying, rumbling cars, the vast yards and night, with its curtain of colored signal lights — these things awed Tommy King.

Blunderingly he hunted out switches and dodged snarling boiler-fronts and swift, silent cars. He pulled clear of thudding couplings, snatched fearfully at fleeting grab-irons, and hauled himself desperately up frail ladders to struggle with stubborn brake wheels.

The youth thought he'd never learn the mysterious steel path. It was his duty as a head brakeman to clear that path for the big freight haulers. He guided them through all of the switches between engine-house and the

yard track, where waited the long train of multi-colored cars which would soon be moving over the River Division.

A hundred times Tommy wanted to quit. He felt like throwing away his lantern and retreating to the security of an office job. But something held him, a gritty little streak that ran through him like a vein of pay ore in a ledge of rusty-hued and crumbling rock.

At night he watched the drowsing towns turn low their lights and relapse peacefully into sleep, and wished he were back where the hours of blackness were for slumber rather than for mothering a cantankerous brood of box cars. And yet he hung on—a scared youth who was already walking hand in hand with Death!

By the end of his first month, Tommy King was just beginning to shake off that persistent feeling of timidity and helplessness. He was learning from hard knocks.

Things that had seemed difficult, even terrifying at first, were now becoming commonplace details of the day's work. He grew confident as the fascination of the railroad game fixed itself upon him.

The youth was thankful for the doctor's friendly advice that had released him from the office confinement and given him an opportunity to fight out his battle in the open air. He could feel a difference.

And then, out of a blue sky, came a bit of tragedy! It struck with stunning suddenness, as such things do.

EXTRA 2605, westbound, had pulled into the middle at Irvington to clear one of the fast freights, No. 441. As the grimy freight hauler drifted slowly down toward the west-end switch, the young engineer on the right pulled out his watch and tilted its face within range of a gage lamp.

They were on short time. Unless they could follow 441 out of town, they would probably be "canned" because of the "hog law," the sixteen-hour period that railroad men may work continuously.

That would mean a long wait at Lakeland or Woodville for a train to "deadhead" in on; for it was close to midnight and there would be nothing along making local stops until the theater train came out from Baytown.

As the extra at last came to a stop, the engineer got down from his seat-box and reached for his kerosene torch. If they had to wait until the fast freight went and then take water, they would certainly be stuck, for it would mean going in at Lakeland for No. 21.

Bob Noble had been set up to the right side of the cab two years before. He was considered a good engineer, but had the reputation of taking chances. He was young, however, and time would tone him down. So reasoned those concerned with the moulding of steady, reliable runners on the River Division.

Nature had endowed Bob with good looks and perfect health. At thirty-five he was in his prime, a big, husky chap with the pink cheeks of a baby. He radiated confidence in his own ability, was even a bit bullheaded. He didn't like people to tell him what *not* to do.

"I want to get home tonight," he told the fireman, as he opened the fire doors and jabbed the wick of his torch at the flame across the door-ring. "Wonder how much water we got?"

A moment later he was climbing up over the tender. He pulled open the heavy metal cover at the back and peered inside. The water was low. They'd have to fill up here.

As he scrambled back to the deck, Bob spoke to the brakeman:

"Hey, feller, you line up the iron out there. We're going to head-pin and go down the eastbound and take water while we're waiting for 441." To the fireman he added: "You cut us off, Bill."

Tommy King, lantern held in the crook of his arm, had been studying his time-card.

"We'll be pretty close on the time of the first 220," he protested mildly.

Bob had paid little attention to Tommy King, beyond mentally making note that the other was unknown to him. Even that was not unusual, for new men were always coming and going, and Bob seldom had the same head brakeman twice. He looked at the shack now, and scowled.

"Come on, feller, get going! All you got to do is open the gate for us and flag the eastbound. The automatics will take care of the rest. The 220's are always late anyway."

It was raining and the night was one of Stygian blackness. Nervously Tommy let himself down the grab-irons and moved away in the gloom. East around the bend No. 441 whistled sharply.

Tommy, glancing down toward the station, noted that the order board was red. He inserted his key in the lock of the first switch and threw the levers. Then he hurried on to the second switch across the eastbound track. It glowed red. Tommy raised and lowered his lantern in a "come ahead" signal.

The big engine of No. 441 crawled down past Extra 2605, her long string of cars moving in out of the murk to catch the dull glint of the platform lights beyond.

Bob growled out an impatient oath because 441 had arrived so promptly. They'd have to hurry if they were going to follow the fast freight into Middleboro. He eased the 2605 back to give the fireman the slack necessary to pull the pin; then stepped to the gangway to shout at the latter:

"Half a tank will be enough."

Now Bob glanced toward the spot in the blackness where Tommy's lantern was signaling that the way was clear for the 2605. *In that moment Bob Noble blundered!*

ALREADY Tommy had made a bad mistake, out there in the sodden blackness. It was plainly up to the young engineer to check on the brakeman, but in this he failed; failed as miserably as he did later on the pathway of life.

Bob moved across the cab from the left-hand gangway, latched the big Johnson bar forward and reached for the throttle. Within a full arm's length on his right the cars of No. 441 were trundling past, huge, noisy "reefers," their wheels fighting the tight grip of brakes.

For a few yards the 2605 would move parallel to the slowing train of the 441, then the pilot of the grimy freight hauler would nose away to glide over to the *eastbound* main iron—*if?*

If Tommy King, under the urge of haste, confused a little by the utter blackness and his unfamiliarity with the Irvington middle—if Tommy had not lined that first switch for the *westbound* track.

And thus, instead of weaving to the left, the big boiler-front of the 2605, its ponies answering the guidance of

the shining switch-point, eased to the right.

With numbing horror Bob stood erect by the quadrant of the reverse. He heard a splintering crash, saw a slow-moving refrigerator car rock sickeningly, and realized that the 2605 was plowing into the middle of No. 441's train!

He jammed the throttle in, yanked the engine brake, and frantically snatched at the whistle cord. An instant later he had set the Johnson bar in reverse motion and was pulling clear.

But the damage had already been done! Three cars of No. 441 were on the ground. The side and door of one had been ripped away and part of its contents scattered along the track.

The snapping of an air hose had automatically set the brakes on the fast freight, bringing the train to a buckling stop even before the crew knew anything was wrong.

Bob climbed slowly down through the left gangway, a flaring kerosene torch in his hand. He was strangely calm. It was his first accident, and it wasn't his fault. The brakeman had thrown the wrong switch, he told himself.

And yet, even as he presented this mental alibi, he knew he should have made sure that everything was all right before moving the engine. The brass hats would ask him that.

Meanwhile, Tommy walked toward the 2605. The youth was white, trembling like a leaf. He was done now. And just when he was beginning to know what it was all about. Good-by job! It was his fault; he'd been confused by the blackness and the pelting rain, and trying to hurry, too. The hoghead would sure give him hell.

When at last he stood before Bob Noble, the young brakeman was seized by a fit of coughing. It left him weak and gasping for breath. Bob held up a torch while his penetrating gray eyes looked at the pitiful figure. After a moment he said, in a not unkindly voice:

"What's the matter, kid? Sick?"

Tommy nodded. "Gee, I'm sorry!" he breathed huskily. "I—I never been in the middle here before and I was all mixed up. Is—is it awful bad?"

"What's your name?"

"Tommy King."

"How long you been railroading?"

"A—about a month." A pause, and then: "I was a draftsman, but the doc said I'd have to get a job outside."

"Any folks?"

"My mother and sister."

"All right, King," said Bob grimly. "You've got just one thing to remember. You did what you were told to do. *I* showed you the switch! My mistake."

"But I can't do that," protested the brakeman. "It—"

"Shut up! I'm running the head end." Bob turned to his fireman: "You don't know anything; you were back pulling the pin."

"I get you," agreed the fireman.

"It's my first bust," the engineer went on. "I figure it's worth about sixty days, but I wanted to go down South for a trip anyhow. See the wife's folks, you know. Virginia and around."

Lanterns danced through the rain-laden night as trainmen came hurrying toward the scene of disaster. In the pounding heart of Tommy King a hero was born—and that man was Bob Noble, Central Valley hoghead.

A LOT of strange twists occur on this old ball of clay. We simple mortals play for the breaks. If we get

them, we're winners. If we don't—well, we snatch what crumbs of comfort we can and wait for another chance.

The night that Bob Noble rammed the boiler-front of the 2605 into the side of No. 441, that night was the turning point in the engineer's life. He lost the breaks when he failed to read that taunting eye of red on the switch-stand in the Irvington middle and thereby catch Tommy King's error.

Tommy went out to Bob's house soon after the investigation and tried to explain in his own awkward way to the engineer's pretty wife that it had been his fault, the suspension and black marks that Bob had drawn.

Mrs. Noble smiled with sympathetic understanding.

"Those things happen," she said. "It's part of the game. I know, for my father was a railroad man, and my brothers, too. You mustn't feel badly; Bob will be all right. We'll just take a little vacation—Bob and the baby and I—and when we come back he'll be handling trains just as though nothing ever happened."

Tommy never forgot how sweet Mary Noble was to him. He told his mother about her and about Bob, and what a swell guy the engineer was.

"I just hope I can do something for him some time," he would say frequently. "I sure hope I can."

When Bob Noble marked up again, misfortune seemed to dog him. Too, it was whispered that he was drinking. At any rate, Bob figured in a rear-end collision during the winter. He got out of it all right, because it was proved that the flagman on the train ahead had not gone back as far as he should.

Late in the spring there was a third accident, a nasty freight wreck. It mattered little that the conductor and remainder of the crew were equally guilty. Bob was the engineer. Things looked bad.

There had been a long wait in a passing track for No. 253. It was quite natural that men in cab and caboose should have dozed. But that wasn't all. The fast freight had whistled signals, a long and two short, calling attention to the "green" she was displaying for a second section.

Dimly it burned in Bob Noble's mind that he had heard the muffled shriek of the 253, warning of that second section, and yet the conductor, fireman and brakeman were of the opinion that the engineer was mistaken. The 253 seldom ran in two sections.*

However, it was decided to wait the usual ten minutes before pulling out onto the main line. The siding was in an isolated place and there was no way of making sure.

Second 253, running at high speed, flashed past the distant signal, which showed "double green." Once having passed the automatic block, there was nothing to warn of the fact that the switch of the siding ahead had just been opened, while the big jack of the Ishmael extra panted fair into the path of the second class train as it whipped around the bend!

Had Second No. 253 been following the first section exactly ten minutes, it would not have happened. Just a minute or two, and yet it was the difference between safety and disaster.

The shattered cars were piled in a mad tangle. One man was killed, and another broken, Bob Noble. Bob read "the handwriting on the wall," and quit. Under the circumstances there was nothing else he could do.

---

*Today such a mistake could not happen, for the rules require the whistle signal to be answered by the waiting train. Otherwise the train displaying signals must stop.

THE never-ending march of the hands of time checked off the days and weeks and months. Bob worked at several different jobs, while bitterness smouldered in his heart. He tried to forget the railroad, tried to drown its haunting memories in rot-gut booze.

His wife, Mary, stuck loyally, but her heart was breaking. The man she had known in those happy days that were back of them was becoming more and more a hateful beast.

Luck had been against him ever since that night when Tommy King, the "lunger," kicked out the props of things by throwing the wrong switch. The guy had jinxed him, and Bob felt he'd been a fool to cover up the half-dead shack. He grew sullen, vindictive.

Tommy King, in the year that followed, knew his own share of grief. His mother died suddenly from a heart attack; and his sister, about to be married, was killed in an automobile accident. He forgot, for the time, about Bob Noble, as he fought through the lonely days and nights that followed.

It was not until some months after the engineer had left the Central Valley that Tommy learned the full extent of Bob's degradation. He could hardly believe it, and he went to visit the man who had saved him that night at Irvington.

But he found the house closed and a "For Rent" sign on the gate. Mary Noble, neighbors told him, had taken the baby and gone home to Virginia. She had stuck as long as it was humanly possible, had stayed with Bob until life with him was no longer bearable.

No one seemed to know what had become of the engineer, and they cared little. Later Tommy heard he had gone bootlegging and was mixed up with a tough gang in Baytown.

Stark as was the tragedy that had darkened his own life, Tommy found in the tangled threads that had enmeshed Bob Noble something more terrible.

Tommy knew his own span was limited. But Bob had health, ability, a fine and loyal wife, a husky baby. And yet the hogger tossed away all of these just because a few breaks had gone against him!

SOME months later the two principal actors of this story unexpectedly faced each other in a lonely little telegraph office of the Central Valley.

It was at Mountain View, on the West End. A kerosene lamp with a dingy, fly-specked reflector cast its illumination from a wall bracket. A relay whispered the gossip of the train wire; a sounder parroted the things that the relay told in a cold, mechanical voice. On the wall a clock ticked, its patient pendulum swaying back and forth before the bit of glass that shielded it.

The operator lay sprawled on the floor, his eye-shade awry, a thin trickle of blood painted across his shirt.

Lurking in the shadow of the outer door stood a masked man, a revolver gripped in his right hand.

Some five minutes before, an extra had crawled down through the midnight gloom and nosed into the passing track west of the boxlike depot.

The man with the mask watched with sullen eyes the big freight hauler as she came to a complaining stop in the siding. The panting engine, her boiler-front studded by a glimmering eye of white, was some two hundred yards away.

The figure in the door watched for the twinkle of a lantern that would re-

veal the approach of the head brakeman, watched with uneasy alertness.

No signal was displayed for the extra, and there should be no reason for the brakeman to come to the telegraph office, but you could never tell about a crazy shack; he might do most anything.

At 11.40 by the clock on the wall the bandit crossed the telegraph office and released the latch of the lever that controlled the order board, high on the mast above the station. He set the signal red.

The man on the floor stirred. A low moan came from his lips. The frosty eyes above the mask glanced at the prostrate form.

"Coming around," he murmured, and stooped to grasp the unconscious man by the arms.

The bandit opened the door of the small waiting room and dragged his victim to a closet of scant dimensions beyond. He dumped the operator within, closed and locked the door, then heaved a sign of relief.

"I was afraid that crack on the skull might have killed him," the masked man told himself. "I wouldn't want that; Bundy is a good guy."

As he recrossed the darkened waiting room to the telegraph office, the intruder had a vague premonition of another presence close at hand. He shot a glance toward the outer door; a low oath jerked from his lips. Standing on the threshold was the head brakeman of the extra, Tommy King!

There was a moment of strained silence; then the bandit snarled a hoarse command:

"Stick 'em up!"

Amazement flooded Tommy's baby-like face. He opened his mouth to protest, but closed it again without a word, seized by a sudden spasm of coughing.

The gunman's gray eyes fixed themselves instantly on the shack, whose features had been partially shaded by the brim of a felt hat.

"Hell!" he cried. "You would have to prowl down here."

He glanced at the clock. In less than five minutes No. 3 would come booming out of the east. Time was getting short, and just as he had gotten rid of the operator another fool had put in an appearance! Somewhere down the track his two confederates were hidden. They would keep out of sight. He'd have to handle this thing alone.

"Boy," he growled at length, "I got to tie you up. The brass pounder tried to get smart, so I cracked him on the nut. I don't want to hurt you—"

THE bandit, forgetting for an instant to disguise his voice, had lapsed into natural tones as he addressed the other. Tommy leaned forward abruptly, staring hard at the man with the gun. The next instant a name burst from his lips:

"Bob Noble!"

"Yeah!" rasped the ex-engineer. "You hit it, Tommy. And you ain't making it a damn bit easy for me. Why didn't you stay out of here? That job you're on is in the clear for Number Twelve, and they're due about the time Three is. That crew you're with will be yelling for you to head 'em out in a coupla minutes, and where the hell will you be?"

Something strange had come over Tommy King. His old nervousness was gone. He found himself remarkably cool, self-possessed.

In a flash his mind went back. He recalled that rainy night in the Irvington middle when Bob Noble, gruff, blustery young hoghead, had scorned to shift the blame to the shoulders of a

green shack. All of Bob's bad luck had dated from that wreck. The breaks had seemed to go against him.

It didn't matter to Tommy that the hogger himself had been largely to blame. Tommy wasn't one to draw fine distinctions. He was thinking of Bob, a big fine-looking engineer; of Mary Noble, his wife, sweet and lovable and gentle; of the baby, Robert, Junior.

And now, tonight, that picture was destroyed. Bob with a mask and gun. Train robber! Ready to loot a Central Valley train.

Tommy's lips tightened. A steely glint appeared in his usually mild eyes. When he spoke he hardly recognized his own voice:

"A fine guy *you* turned out to be! I used to think you was regular—a Central Valley hoghead, walking 'em down the railroad with a white feather and a red stack. Then I heard you'd gone 'rum-dum' (turned booze fighter) and quit your wife. They say a yellow streak is bound to come out—"

"Hey, who the devil do you think you are, shooting off your mouth like that?" Bob interrupted savagely. "I'll knock your block off."

"Me? I'm Tommy King, head shack," was the answer. "And you—well, you ain't nobody. See? Once, when I was green and lined the iron wrong, down here at the Irvington middle, you was pulling the latch on the job, and you told me what to do and what to say. You was doing me a favor, and I never forgot it."

"That's all gone, kid!" snarled Bob Noble. "I ain't asking anything of you in return."

"Shut up!" cracked Tommy King. "We ain't got all night to stand here and yap. Number Three will be along in a couple of minutes. I see you got the board out for her. Better clear it up, or you want me to?"

"You make a move for that lever, King," came the warning, "and I'll split you, s'help me God!" Bob moved a step toward the other threateningly.

Tommy forced a grin and shrugged his shoulders. "Oh, all right." He paused, then asked at last: "What flag are you using now? Guess you don't call yourself Bob Noble any more, do you, hoghead?"

The man behind the mask laughed bitterly. "Naw! Bat Nolan, that's me. Tough egg."

"Bat Nolan," said Tommy, his eye flicking to the clock. "That's a good break for Bob Noble, Junior, ain't it? And for a swell little wife."

"You preaching?" sneered the man who had been a locomotive engineer.

"I ain't preaching what I can practice," Tommy shot back grimly. "And I'm going to start by converting you, you big yeller-bellied stiff!"

"Kid, I got to bust you," Bob announced coldly. "I ain't got only a minute. Three will be here."

"All I got is one bellows and a skeleton," Tommy retorted, "but it's going to be the toughest busting you ever tried—Bat Nolan!"

FAR down the gorge to the east a whistle blast pierced the night. It was No. 3. Already the silver blade of her headlight was frosting the higher rims back of Mountain View. Faintly came the labored exhaust of her big passenger engine.

Tommy moved forward suddenly. He swung his lantern at Bob's face, and lurched to one side as he tried to reach the lever on the front wall of the telegraph office that would clear the board for the limited.

Bob caught the blow on his shoulder and flung the slender form of Tommy King roughly to one side.

"You crazy fool!" he swore, trying to kick clear of a pair of flailing arms that had seized him about the legs. "Damn it, do I have to knock you kicking?"

He belabored at Tommy's head with his revolver barrel, but the skull was hard to find in the mêlée.

A sobbing, blubbering wildcat tore into Bob with fury born of desperation. No. 3 storming up the rail; a hulking, armed man between him and that signal lever; seconds precious as life itself, and a white-faced youth with blood-flecked lips hurling himself into the breach.

"I ain't scared of you!" Tommy choked. "Shoot me—if you want to! I ain't got nobody. You won't be—killing nothing—but yourself, you dirty quitter!"

He fought free, and again lunged toward that latched lever on the wall above the telegraph table. Once more Bob knocked him away from his objective by a blow with the flat of his hand.

Somehow the renegade engineer could not bring himself to shoot this husk of a youth. It was bad enough to manhandle him.

"You—you're a hell of a—a railroad man!" Tommy gasped convulsively.

"If I don't silence this guy's tongue," Bob told himself, "it's curtains for me." He was panting heavily from exertion.

"Le'me clear that board!" pleaded the brakeman. "I tell you—le'me give 'em the green—"

The bark of No. 3's exhaust was suddenly cut, while four quick blasts shrilled an impatient call for signals. They should be getting no tissues at Mountain View. But the eye of red above the little depot held fast. The engineer of the limited made a service application of brakes.

Bob backed against the telegraph table, his bulk presenting a barrier that the slender brakeman could not hope to get past.

Tommy, however, was quick to grasp at the one bit of strategy that remained open to him. Through the struggle he had retained a grip on his lantern. In spite of the abuse it had received, it still burned brightly, for a railroad man's lantern is built to flaunt its gleam regardless of storm or rough usage—like the spark, shall we say, in the soul of Tommy King.

The brakeman wrenched free of the clutching fingers of Bob's left hand, jerking backward toward the door behind him. He stumbled, regained his balance with an effort; then ran around the corner to the front of the depot.

BOB'S two masked confederates, huddling in the shadows near the platform of the freight shed, turned past the far end of the building and started toward the telegraph office, fully expecting to find "Bat Nolan" waiting to join them.

What they saw, instead, was a trainman with a lantern, leaping toward the westbound train. Although the two bandits had observed the headlight of the extra east pulling down into the passing track up west of the station, they had not seen the light of the brakeman as he approached the telegraph office.

Tommy jerked his lantern in a quick arc above his head. "Highball!" it told the engineer, leaning from the cab of the oncoming passenger locomotive.

Instantly there sounded two sharp

whistle blasts from the dome. Came the hiss of releasing brakes and the crack of the exhaust, sending its staccato bark echoing through the night.

At that moment an orange flash stabbed the gloom and there was the sharp report of a pistol. This was followed almost instantly by another flash and another report.

Something struck Tommy and turned him halfway around. Suddenly the world seemed to fall away from under his feet, leaving him drifting in space.

Bob Noble, lunging from the door at the side of the depot, saw the lantern in Tommy's hand flash its signal, but he made no attempt to shoot.

The spunky little brakeman was just doing his duty, playing the game; you couldn't kill a guy like that. He was railroading for the Central Valley, railroading all of the time, the half-size little cuss.

And then Bob heard a shot. He saw Tommy sag at the knees, there in the dim yellow light that shone from a window of the bay. They were shooting at the kid! My God, they'd got him! His pals! His.

The ex-engineer of the River Division mumbled an oath, and, in the same breath, a prayer. Poor Tommy! And the kid had only been trying to show him that a railroad man never quits in an emergency.

Bob swung past the corner, the gun in his right hand raised. Two masked figures were running toward him. He fired. One of them stumbled to his knees.

The pistol in the hand of the other spat flame, and a bullet whipped past Bob Noble, alias Bat Nolan. The fool was shooting at him!

Mechanically he brushed his left hand across his face, and, for the first time, realized that the mask was gone. It must have been ripped away during his struggle with Tommy.

That was as it should be, wasn't it? A railroad man didn't wear a mask. Into his mind flashed a picture of Mary, his wife, and Bob, Junior, shouting a gleeful "Gar!" at him.

Something wet the ex-hogger's cheeks. He dabbed at it with his left fist, as he stood now, feet braced, beside the prostrate Tommy. What the hell, had he got the blubbers, too?

The gun in his hand exploded twice, and the second gangster sprawled onto his face.

CRASHING down on the scene came the great boiler-front of the engine of No. 3, the thunder of her exhaust booming a triumphant song. Hissing steam, the hot breath of the cylinders, the whipping crash of drivers and the golden glow from the ashpan—all brought smashing home to Bob his old love, the love of an engineer for the iron horse.

Renegade no more, he snatched up the lantern from the limp figure of Tommy and waved it. The engineer of the limited leaned down over the arm rest and shouted something that Bob could not hear. The fireman hung from the gangway on the right, his eyes wide, as he was carried past the scene of the brief but savage gun fight there on the plank platform of the country depot.

Sleek and burnished cars trundled past, following in the wake of the snorting Pacific type locomotive, gaining speed with every revolution of the wheels. Lanterns winked from vestibules, and startled trainmen found themselves allowed a brief glimpse of a page from adventure's book of witchcraft.

Page Missing

Page Missing

Page Missing

Page Missing

a blind siding. Two important trains like Nine and Ten should meet at an open telegraph station if possible. There's the three blinds between Argyle and Bradford, and Mason Cove's the middle one. No phone, no way to get in touch with the office if anything goes wrong."

"It couldn't be made that way without a complete revision of the schedules," the s u p e r explained. "Well, I guess I will go home."

FOR thirty minutes the three men in that office were busy—the two dispatchers putting out orders and instructions, the night chief working on reports. Only the humdrum monotone of spelled out time, engine numbers and meeting points and the *click-clack* of Shark's typewriter broke the stillness.

Argyle OS'd No. 9 and Bradford reported No. 10 by. Both trains were on time, which fact was properly noted by Rick in the column of his train sheet provided for that purpose.

"Hows the female girl-friend down at Bradford?" Jimmy wanted to know.

"Boy! She's *somethin'!* And a darned good op, too." Rick enthused on the subject. He shoved the phone button in as he spoke the next words: "Ain't you, Liberty?"

"What's that?" the voice of Liberty Langtry came over the loud speaker.

"See?" Rick told Jimmy. "Right on the job—didn't even have to give her a ring—ear right on the phone." He had allowed the button to close so his words would not carry out on the line, but now he opened it again. "I was just talkin' about you, Liberty; showin' my pardner how a good lightnin' slinger watches the job. In fact, I was sayin' nice things about you."

"You shouldn't take my name in vain," was the laughing reply.

At that instant Jimmy cut the phones through by a switch on his desk and before Rick could stop him said: "He's hopin' you'll take *his* name—"

"Who was that?" the girl asked as Rick disconnected the phone by a jerk of the lever.

"Nobody," Rick answered. "That is, the same as nobody—Jimmy Davis!"

"Oh, you kidders!" Liberty sighed, and Rick could imagine her blue eyes sparkling. You didn't get ahead of Liberty. Not easily, anyway. She'd been born on the Fourth of July, which explained both her name and her disposition.

"You really oughta marry a rich train dispatcher—" Rick began.

"Show me one," she interrupted.

"You win," said Rick. "There ain't no such animal."

"My man must be a hero," she continued. "Brave! S t r o n g ! You know—"

"That eliminates Rick." Jimmy had cut in again.

"Shut up!" Rick addressed Jimmy and looked at the clock. "Is Nine comin'?" he asked Liberty.

"Not yet."

"Can't you see their reflection?" It was 10.20 and No. 9 was due at Bradford at 10.17.

"Not a sign."

Jimmy hummed a few bars of "Casey Jones." Then he said:

"Rick, you ain't got a chance with that kid. Tom Branson, the first trick op at Bradford, has you backed off the boards. Then there's Dick Amick of the International, an old flame of hers—"

"Give your tongue a rest," Rick retorted. He turned the bell on Argyle.

"OS Ten," he directed, when the operator answered.

"Not here yet."

"Now what the—" Rick spluttered. "Can't you see 'em or hear 'em?"

"Not a see or a hear."

"Hey, Liberty, is Nine showin' yet?" he inquired next.

"Not yet."

"Hey, Shark," he called to the night chief, "somethin's happened to Nine and Ten. Neither one showin' up an' both of 'em overdue."

HENDERSON hurried into the dispatcher's office and looked at the train sheet. Jimmy Davis walked around to Rick's side. They surmised everything from hot boxes to one of them having hit an auto.

"They'll be showin' in a minute, I guess," Shark said, but as the time passed and still no word, the night chief called Barclay at his home.

"Nine and Ten are both overdue thirty minutes," he told the superintendent. "We don't know what's wrong. Thought you'd want to know about it."

"I'll be right down," Barclay responded quickly.

Shark returned to the dispatcher's table. Rick was getting the operators at Magnum and Forsyth, to which he had sent the original orders. He had each op repeat his order from the office copy. They checked correct. There had been no fall-down from that source. "The tissues are okay," he told Shark. "The meet reads 'Mason Cove' all right. Looks like we'd be hearin' somethin'? They've had time to get to a phone somewhere if anything's happened."

Rick was a bit nervous. Repeated calls to Argyle and Bradford brought no satisfactory result. Neither train was showing. Not even the reflection of a headlight from either station.

"There's a general store at Sikes, Shark," said Rick, as he walked around the table. "Let's try and get it on the city phone; central can cut us through. We can find out whether Ten has passed through there or not."

Sikes was halfway between Bradford and Mason Cove. Chances were favorable that the storekeeper had seen the eastbound pass. Anyway, it would be a step nearer information.

It took ten minutes to get the connection and awaken the sleepy proprietor, then another three or four minutes to get into his head what Shark wanted to know.

In the meantime Superintendent Barclay had arrived at the office, and the four men were in suspense awaiting whatever the answer might be.

"I ain't saw no train pass," drawled the storekeeper in disgust. "There was one pulled in down there jest as I went to bed but it didn't pass; it stopped."

"Stopped?" Shark asked in surprise. "You mean the eastbound passenger stopped there? How long did it stop?"

"Reckon she's still there—le's see—yeah, she's still standin' down there. I can see the lights in the cars—an' here comes somebody carryin' a lantern—" Shark was repeating the information as he heard it so the others might know what was going on.

"It's Harvey, the conductor, I guess," the night chief went on. A moment later he was talking into the transmitter again. "Hello, Harvey? What's the trouble?"

"That's what I'm wondering," came the reply. "Where's Number Nine?"

"Number Nine? Why, they're over at Mason Cove waitin' on you. What the devil you doin' at Sikes?"

"I'm waiting on Nine. I got a meet with them right here!" was the astonishing answer.

"You've got WHAT?"

"A positive meet with Nine at Sikes."

"Wait a minute!" Shark conveyed the information to Barclay and the others. "How about it, Willoughby? There's a mixup in orders somewhere."

RICK had turned to the dispatcher's table and came back with his train order book. He laid the opened pages down in front of them so they could see what orders he had given the trains.

"He's crazy," Rick said uneasily. "No such order's been issued. Have him read it to you. What's the order number and the clearance card number?"

Shark requested the information. There was a moment's waiting while the conductor dug the tissues out of his pocket and began to read the words. Shark copied them on a piece of clip paper as they came.

ORDER NO. 68

No. 9, engine 2876 meet No. 10, engine 2753 at Sikes instead of Mason Cove.

"Where did he get that order?" Rick demanded.

"Bradford," was the unhesitating reply, "and the clearance card is Number Sixty-nine, and the initials on it are 'R.W.'"

"Mine!" Rick's face paled. "There's somethin' peculiar about this, Mr. Barclay. I never issued that order. I wonder if Number Nine's got a phony, too?" He paced the floor nervously. "Thank God, whoever put it out didn't make a lap order out of it. They can't hit as long as the orders is holdin' 'em six miles apart." He went back to his table and called Bradford. "Did you have an order for Number Ten?" he asked Liberty.

"Sure, I delivered it. Why?"

"Who sent it?" Rick inquired.

"Don't be silly. You did, of course!" The words came from the loud speaker distinctly. Barclay looked at Rick strangely.

"I never sent it!" The young dispatcher repeated his denial as he noted the super's half suspicious glance. "She's either crazy or I am!"

Barclay looked at the clock. It was nearing midnight and Rick's relief would be coming on in a few minutes.

"You'd better fix up your transfer, Willoughby," he said curtly. "Take a few days off."

There was a hidden meaning in the super's tones that the youth understood. Evidently he was under a cloud in the matter. Liberty's unqualified declaration that he had sent the order had registered in Barclay's mind.

"Does that mean I'm out of service?" Rick gasped.

"Yes, until the investigation at least. It's a queer deal, Willoughby, mighty queer. And now," he turned to Shark, "we've got to move Number Ten to Mason Cove under flag protection. It's the only safe way. We don't know what crazy orders Nine may have!"

THERE was no delay in holding the investigation. With the general manager pounding for information and ridiculing the attempted explanation of some sort of phony orders, Superintendent Barclay was in a turmoil of suspense. He had both train and engine crews from Nine and Ten along with Shark Henderson, Jimmy Davis, Rick Willoughby and

Liberty Langtry in his office at ten o'clock the next morning.

But the investigation resulted in nothing further than the already known information that Number Ten had received a spurious train order changing the meet with Number Nine from Mason Cove to Sikes. It hinged about the statements of Rick and Miss Langtry.

"Mr. Willoughby sent it to me in the regular way," the girl insisted, "and issued the clearance card with his initials just as he's always been doing."

"You're sure it was Willoughby? You know his voice on the phone?" Barclay questioned.

"Certainly. I'd recognize his voice anywhere."

Rick was equally positive he had *not* sent it. "I never even dreamed of such an order, and know nothing about it!" he protested desperately.

"One of you is lying!" Barclay retorted coldly. "I don't know who, but it's a cinch that one of you is. It's absolutely impossible for an order to be sent changing a meeting point without a previous knowledge of what the former order had been. That makes it look very bad for you, Willoughby. On the other hand, I'm not so sure about your story, Miss Langtry. There's something queer about the whole business. I'm going to fire both of you. Sorry, it can't be helped. That's all!"

Liberty's eyes flashed. She looked at Rick in downright hostility.

"I hope you're satisfied," she said. "In trying to clear yourself you got my job along with your own. I never thought you'd do such a thing, Rick. Why did you deny sending that order? If you made a mistake, why didn't you come out and admit it like a man instead of—"

"Listen, Liberty, I don't get this deal. You know I never sent that order."

"Don't ever speak to me again, Rick Willoughby!" The blue eyes snapped, a little foot stamped the floor. "I never want to see or hear of you again—*never!*"

Rick ignored her outburst of anger. "You're double-crossin' me, kid, without meanin' to," he replied. "If you hadn't been so cock-sure it was me who put out that order we might have got the Old Man to come to his senses and realize there's crooked work goin' on. I don't know why or what it's all about, but I'm goin' to find out. And when I do and it's all cleared up I'm goin' to ask you to marry me—"

"Marry a man who has practically called me a liar in public? Marry you? Not as long as grass grows and water flows!"

"That's a long, long time, baby," Rick flung back sadly as he turned toward his boarding house.

LIBERTY went back to Bradford and to her room, where she exercised a woman's divine right to cry. But when she relieved Tom Branson, the first trick man, at four o'clock, she was so exceptionately nice that he took new hope. Liberty had been a bit cold toward him of late.

"I'm fired," she explained blithely, "over that order deal last night. I guess this will be my last day on the job."

She related the details of the investigation and Rick's denial.

"You don't need a job, Liberty," Branson declared. "I've told you about the cottage—and I'm workin', you know. Just say the word—"

"Not now, Tom. I want to wait. I need time to think—"

"All right, honey, just so you don't start thinking about a cottage with Rick Willoughby."

The girl flared up at that. "I *hate* Rick Willoughby! Don't ever mention him again."

For an hour after Branson had gone she listened in on the phone. Kinsman, the extra dispatcher, was working. They had not allowed Rick to work another day, it seemed, and as she listened to the voice of the relief man there was something lacking, something she missed and longed for. Liberty clenched her little fists at the thought of it. Then came tears she could not hold back.

At that moment a big car rolled up to the depot and Dick Amick alighted. He had heard of her misfortune in losing out and had come to offer her a position on International Bus Lines, Inc.

EVERYTHING was going smoothly on Kinsman's trick that night until 9 and 10 failed to show up on either side of their meeting point.

Superintendent Barclay was in the office tramping up and down, listening. Not a move escaped him. He had heard every order put out by the extra man and checked them as they were repeated by the lightning slingers. It was a certainty that things had been regular from that end of the line.

But again the trains were overdue! As the super paced the floor he grew more nervous. Minutes passed without hearing from either of the delinquent transcontinentals.

"What in hell *could* go wrong?" he demanded of Henderson, the night chief. "Get that storekeeper at Sikes again. Let's see if he can tell us anything tonight."

Barclay took the instrument and held it to his ear while the connection was being made and until the sleepy man replied to the call.

"Th' eastbound went by on time, fur as I know." That was the storekeeper's information.

"Well, where in—" The words were cut short by the phone ringing, and Barclay answered. It proved to be Conductor Harvey who had charge of No. 9 that night, this being the opposite side of his run from the night before.

"I'm at a farmhouse," he said, "out here by Walnut. We got an order at Argyle changing our meet with Ten to Walnut instead of Mason Cove. Is it okay? Ten's not showing."

Barclay gave a groan of despair. "This thing is positively nerve-racking!" he said under his breath. Then aloud:

"No, it's another phony, Harvey. Wait a minute. Get Argyle, Shark, see where the op got any such order from."

He waited until the night chief had consulted the operator, who claimed he had received it in the regular way from the dispatcher.

"You'll have to flag out, Harvey," the superintendent explained wearily. "Tell your flagman to step out, but follow him easy; make the move safe. I suppose Ten's waiting on you over at Mason Cove."

"It's a cinch somebody's sendin' these phonies," commented Shark Henderson. "Argyle says it sounded like Kinsman's voice and he never questioned it. Damn thing's just like the one sent last night, only it changed the meet to Walnut instead of to Sikes. One thing sure, whoever's doin' it is keepin' 'em apart; Walnut's halfway between Argyle and Mason Cove.

It's beginnin' to make my hair stand on end."

"It's beginning to finish our pay checks," Barclay added gloomily. "The management's not going to take any ghost business for an answer. It's a wonder those orders haven't been put out the other way and resulted in a head-on."

"Yes," agreed the night chief, "and it's raising hell with our chances at the mail contract."

Barclay slapped his hand on the desk. "By heavens, I believe you've hit it, Shark! The mail trains are the ones delayed. Last night they went in an hour and a half late. It'll be the same again tonight!"

"The idea has possibilities," Shark admitted cautiously.

"Sure it does. I'm going to get out instructions to the crews tomorrow night to come in on the phone and verify any change made in their orders before acting on 'em. That'll keep 'em from getting sewed up, anyway."

Shark was now enthusiastic. "And we'll have the second trick wire chiefs camp on the train wire with their trouble finders and see if we can't get a line on where the wire's bein' grounded—for that's what's bein' done, groundin' it between the dispatcher and the point they're puttin' the phonies out to. And that puts me in mind of somethin', boss," he added suddenly. "This deal tonight proves Rick Willoughby and the girl at Bradford are innocent."

"That's right," Barclay admitted. "Let the girl keep on working and tell Willoughby he's reinstated. See that he gets pay for tonight, too. And now let's figure on that trap . . ."

But when they tried to get in touch with Rick in the morning to notify him of reinstatement the youth was not to be found. He had not been in his room during the night nor had anyone seen him around the places where he usually was to be found when off duty.

THAT day Superintendent Barclay had two callers at the same time. Bob Sanderson of the L. & A. dropped in for a word with his rival, while Dick Amick of International Bus Lines, Inc., also paid his respects. Both had heard of the phantom orders and consequent delay to the trains that were fighting their respective lines to secure the mail contract.

"We want to beat you," Sanderson said, "but it must be on the up-and-up."

"We're out to beat both of you," Amick announced, "but we want to do it with speed. If there's anything I can do, Barclay, anything you need—men, or the like—I'd be glad to loan you some to help pick those birds up."

"And we'll be glad to furnish special agents if you need 'em," Sanderson offered.

Barclay preferred to handle the problem without outside assistance, and said so. "But I thank both of you just the same," he added.

He sat and thrummed the top of his desk for some time after they had left.

"We stand to lose," he ruminated. "If we get sewed up once or twice more it's a cinch we'll drop out. The L. & A. has about an even break with us. But the bus people are interwoven with politics clear up the line. We've got to beat 'em both. And that's going to be one hell of a job with this phony order business handicapping us!"

IT promised to be an interesting evening up in the dispatcher's office. Hogarth, the general manager, had ar-

rived on No. 8. He was going to see, first hand, about the so-called phantom orders on Superintendent Barclay's division.

Seated around the table where Kinsman worked were Hogarth, Barclay, Shark Henderson and Lineman Durkee. Downstairs Durkee's motor car was running, ready to be set on the rails in a split second.

In the telegraph office directly below, Winegarten, second trick wire chief, sat on a high stool at his test table watching the needle of a trouble finder. At various points down the line other operators were stationed, cut in on DS (dispatcher) phone, and by each op two or three special agents waited, ready for a dash in either direction on throbbing motor cars.

"They won't get by all this," Barclay said emphatically. "If they try it tonight we've got 'em!"

The officials heard Kinsman issue the customary meet order between the two trains. Both were on time and Mason Cove was the designated point. They watched the progress of them as the dispatcher noted the OS reports on his sheet. In a few minutes No. 9 would pass Argyle and No. 10 would be by Bradford.

There was hushed expectancy in the office. Conversation stopped altogether. Only the humdrum words of the two dispatchers was to be heard.

Argyle gave his OS first. No. 9 was by, on time. Kinsman smiled and turned the bell on Bradford. There was no response; the selector did not show the station bell ringing.

"Bell's out," Kinsman declared. "Maybe Liberty's—"

He was interrupted by a shrill whistle coming from the speaking tube. Shark jumped to answer it and Winegarten said excitedly:

"She's showin' a ground about Knob's Point, Shark! Yes, sir, a solid ground."

"Grounded Knob's Point, Kinsman," the night chief yelled. "Get Bascom, that's right this side . . . Got him? Wade is there with two of the special agents— Hello, Bascom?" He had cut in in DS phone from the chief's desk. "Tell Wade it's grounded near Knob's Point. Take the bulls and get goin'! Tell 'em to keep their eyes peeled! . . . Fine! They're off!" Shark Henderson turned to the other officials. "With a searchlight they ought to pick it up. Try Bradford on the wire."

"I am trying, but she don't answer," Kinsman said.

"Wire's dead open!" Winegarten shouted up the tube. "I cut you off. You're just working the locals up there. I'll get a circuit around through Kay See. They can patch us through by Denver—"

He broke off and began calling Kansas City. It was several minutes before the loop could be patched through—a string more than six hundred miles long to get sixty!—but the wire hounds got it at last.

Although the circuit was weak, Kinsman called BR, the telegraph signal for Bradford, while wrought-up officials paced the floor, and finally got an answer from Liberty Langtry. Only the relay had been working and she had not heard the call at first.

"Where's Ten?" Kinsman snapped at her.

"H-e-r-e. I'm holding them!" was the abbreviated answer.

Before the dispatcher could say more the wire went open. Somewhere on the long stretch it had failed.

Superintendent Barclay swore like a madman. "She's holding Ten!"

THERE was misery in Barclay's words. Time was passing and for some unknown reason the eastbound was being held at Bradford while the westbound would experience a corresponding delay at Mason Cove. This was a new wrinkle of some sort. In the midst of the turmoil the wire chief's voice came up the tube.

"The phone shows clear," he shouted. "Try Bradford!"

Shark conveyed the information to Kinsman with a yell. The dispatcher tried the bell. The selectors were working and as the first tingle of the bell sounded Liberty answered.

"Wade and his men must have found it," Shark began.

"What's holding Ten?" Kinsman demanded of the girl.

"Order Number Seventy-three, the one you gave me," she explained.

"I never gave you any," the dispatcher contradicted. The others had gathered around the loud speaker to hear better. "What is Order Seventy-three? What's it say?"

"It's to operator and all east and reads: 'Hold eastward trains.'"

"Is Harvey in the office?" Barclay demanded. "Put him on the phone," he continued when the girl gave an affirmative reply. "Hello, Harvey! What's the matter? Didn't you get my instructions to verify any orders out of—"

"Yes, sir, and that's just what I done," came the indignant reply. "When we got this hold order I got on the phone and talked to the dispatcher. I asked him if it was okay and he said it was. He said there was a bridge on fire east and he was holding—"

"Good God!" There was no profanity in Barclay's words. "What dispatcher was it?"

"Kinsman," he said.

"They've put it over again!" The super groaned. "Put the operator on, Harvey. We'll bust the order and get you going. The best we can do means an hour or more late to both trains." He turned the wire over to Kinsman and looked at Hogarth. "It's positively uncanny"—he wiped his forehead with his handkerchief as he spoke—"fighting something you can't hear or see."

WHEN Liberty reported for work the following afternoon Dick Amick was pacing up and down the platform waiting for her, while Tom Branson, first trick operator, was leaning against the depot. Evidently the rivals had been engaged in conversation. Amick lifted his hat and Branson greeted her with a casual "Hello!"

"I came out to have a talk with you, Liberty," Amick began, "and now it looks like I'm goin' to have to give you a ride into town. Tom here says Barclay has called you in for another investigation over the order deal last night."

"That's right, Liberty," Branson spoke up. "They found Rick Willoughby along the track in Cross Hollows this mornin'—head cut a bit. He's in the hospital. They think maybe he's in with a gang that's been pullin' these phony orders and the gang's concluded to bump him so he won't squeal."

"Rick Willoughby?" Her blue eyes flashed dangerously. "The fools! Rick wouldn't do a thing like that. It's ridiculous!"

"I don't think so, either," Branson replied. "Rick's a good scout and clean. He wouldn't mix up in any such business."

"Of course he wouldn't!" Liberty said angrily.

"I wouldn't believe it of him," Dick agreed, "but he did sort of act queer about that first order, didn't he? The one where your word was against his?"

"Rick claimed he never sent it to me—" The girl stopped as she recalled the investigation. "I was sure he did. I'm sure of it yet. But I don't mean by that I think—I—how is he?" She turned wistful eyes toward Branson.

"Still out of his noodle, last I heard. He'll get over it, though."

"I hope so," she breathed fervently. "Why are they calling me in, I wonder?" The girl looked from one of the men to the other.

"Maybe they think you're in with him," Branson suggested. "They're crazy, of course, but—"

Liberty merely glared.

"I don't know anything about it," Branson went on, "except that I got instructions to work through till eight o'clock and call the third trick man to come on then. And you're to go in on Number Eight."

"And I'm drivin' in," Amick spoke up. "You'd just as well ride along and not wait for the train. If they tie a can on you don't forget the International has a better job waiting for you. Not to mention a permanent one which I've spoke about before."

The last sentence was spoken in an aside so Branson could not hear.

"And don't forget the job *I've* offered you," Branson laughed. Then his face grew serious. "I'm keepin' an eye open tonight to see if I can't locate this phony business. I'm gonna duck out as soon as I get off at eight o'clock and do a little gumshoe work."

"Good luck, old man!" said Amick, and turned to Liberty. "All right, little one, let's go."

BARCLAY glanced around as Liberty entered his office, nodded curtly and indicated a chair. When she was seated the super took a piece of clip paper from a drawer of his desk and looked at it for some moments before he spoke.

"I hardly know how to begin, Miss Langtry," he said slowly. "I hate to bring this subject up, but things have reached such a stage that it has to be done. Someone is seriously hindering our traffic by fake train orders, as you know. Who and why we don't know. But we seem to have a pretty good lead. Rick Willoughby was found, slugged, in Cross Hollows this morning. What was he doing out there in the night? Your guess is as good as mine—maybe better. And what was he doing with this in his pocket?"

The super handed the piece of clip across to her for inspection. It read:

R.W.
OK for another tonight — the hold order. Be on the job with the gnd.
BR.

"You see," Barclay went on, "it's addressed to Rick Willoughby and signed with your wire signature. It tells him the hold order will be out and for him to be on the job with a ground wire. As I said a while ago it was found in his pocket—and the order was out as per schedule."

"Well, I don't know anything about it." Liberty's blue eyes were boring into those of Barclay. "You surely don't think—"

"I am simply showing you what we've found." Barclay was a bit nervous under her penetrating gaze. "I'm afraid we'll have to dismiss you from the service."

Liberty leaped to her feet. "Go ahead!" she challenged. "I wouldn't

work for you another minute to save your life. I had nothing to do with your phony orders except to copy them as they were sent to me, and I'm sure Rick Willoughby—"

"Remember," Barclay said, "you were positive he sent you the first phony order. You said so yourself at the investigation."

"Maybe I did." Her words were calm now. "I don't understand it at all. But I'm going to find out."

She left the room without another word, Barclay staring after her.

AT nine o'clock Superintendent Barclay sat at the chief's desk. General Manager Hogarth had remained over for another night's watch in an effort to locate the source of the phantom orders that were ruining the Central's chances of grabbing the mail contract.

"If that isn't the object of all this delay to our trains," said Hogarth, "I am at a loss to understand what it can be."

The G. M. knocked the ash off his cigar and looked at the men assembled. Besides himself and Barclay there were the two dispatchers, also Shark Henderson, and Murton, the Central's chief special agent, and Emmerson, signal maintainer. A tube came up the chute noisily from the telegraph office below. Barclay took the message from it and read with puzzled eyes.

"What's this?" He handed it to Shark. "You get what it means?"

Henderson read it aloud. There was no date, no originating office, and no signature.

Cut the ringing battery off DS phone and leave that wire dead. Use telegraph wire for orders tonight. Have special agents and others on watch keep cut in on phone wire to get any instructions you wish to give quick. Use 9 wire for dispatching circuit and have Evanston patch it to 7 wire east to give return circuit to DS office. Watch for phonies on that end of circuit.

"I get him!" Shark declared. "It's good stuff, too. We don't use the phone circuit at all except to notify the bulls what we want to tell 'em. With the phone dead, they'll have to use a wire if they put out any phantoms tonight and we'll be usin' Nine as a DS wire. If they put a ground on it and start puttin' the phony out west of it we'll be gettin' it back in the office on Seven through the patch at Evanston!"

Shark was excited. The instructions gave promise of helping to get at the mystery.

By driving the culprits off the phone by its disuse it would force them to use a wire if any orders were issued, for the operators would be informed that no orders were to be accepted on the phone circuit. If the mysterious personage was not an operator there would be no bogus tissues issued this night.

Shark called Winegarten and explained what was wanted. The second trick wire chief got the idea at once and called Evanston. In a few minutes the patch was made and Kinsman was using the wire for his orders. They were going out on 9 and coming back into the office on 7.

"It's a good scheme," Hogarth commented, "plausible and likely to work. It's a wonder some of us didn't think of that!"

"But who the devil sent it?" Shark Henderson wanted to know. "No originating point, to date, no sig. Winegarten says he's no idea where it come from. Just answered his call and put it down as it was sent. Maybe it's another trap?"

"We'll know in a few minutes,"

Barclay replied as he glanced at the clock.

Kinsman had put out the regulation meet between 9 and 10. Shark sat with the transmitter ready to speak any instructions to the waiting men out on the line who had the head sets on.

Downstairs, Winegarten was at his shelf, a trouble-finder on the phone wire and another on the rearranged train wire, his eye on the needles. The minutes dragged. Suddenly the shaft of steel on his right moved.

"Phone shows a ground about Cross Hollows!" he shouted up the tube. "Now it's on . . . now off . . . now on again!"

"Cross Hollows!" Shark barked the words into his transmitter.

THE words "Cross Hollows" were repeated from three different sources out the line, and the night chief knew his instructions had registered.

"Phone clear." Winegarten called out. "The dammed thing's acting crazy, jumping back and forth!"

"They've discovered we're not usin' the phone for DS and are tryin' it out," Shark declared. "What's doin' now?"

"Still playin' with it . . . on and off . . . now it's on Nine wire . . . now back on the phone . . . back on Nine . . . now they're both clear." For ten minutes there was no further fluctuation, then he called again. "Dead ground on Nine . . . I'd guess it around Meade or Frisby . . . still on . . ."

"Listen!" Kinsman broke in sharply.

The circuit he had been using for DS wire was silent. But on No. 7 someone was calling "BR," the telegraph signal for Bradford, and they were signing "DS."

"Here it comes," the dispatcher muttered as Bradford answered. "We're on the verge of hearin' a phantom order if I'm not cuckoo."

The sounder clicked:

Copy 4, Order No. 81, to C.&E. No. 10, BR.

A shiver went over the assembled men as they listened to the eerie thing. It was, as Barclay remarked, almost supernatural.

No. 10, engine 2753 meet Extra 3128 west at Sikes.

"That *would* be a sew-up," Kinsman said, "there's no such train on the road as extra 3128!"

He was trying to "break" in on the circuit, using a key on No. 7 wire. He wanted to tell Bradford to answer on the phone and he could not ring the office owing to the dead ringing circuit. He was having a fight for the wire circuit but he did not know whether it was the phantom dispatcher or some one else contesting him.

"Hello, Bradford?" he kept speaking into his transmitter until the operator answered. "Don't deliver that order to Ten," he instructed, "it's a phony . . . This is Kinsman."

There came the unmistakable sound of a pistol shot, the slam and bang of men fighting, hoarse cries, then quiet.

"Wire's open!" Kinsman yelled and at the same moment the wire chief's voice came up the tube.

"Phone and wire both open!"

"If this isn't hell!" Barclay growled. "What was that shot? Where was it? And who? Maybe the special agents have found the phantom dispatcher. Try to get Bradford on some other wire, Kinsman, and get Ten moving. Keep—"

"Listen!" Kinsman's voice broke in. "Listen! Somebody's on Seven—"

The sounder was working jerkily but slow, with long spaces between the words as though the sending required effort. It said: "Come Meade quick." There was a flutter of unintelligible clicks and the wire was silent once more, dead open.

Every man in the office was trying to get a connection out the line. Hogarth attempted to get some one on the dead DS circuit; Henderson was calling Bradford on one of the message wires; Kinsman continued trying to adjust down in case a weak circuit was to blame, and Barclay was on the city phone in an effort to get a long distance call through to Meade so he could send officers to the depot.

"Dammit! She can't raise a soul," the super exclaimed. "Try again, central, keep trying." He turned to Shark. "How's it come anybody can telegraph from Meade? That office has been closed for two months or more."

"But the wires and instruments have never been taken out," said the night chief. "The place is just like it was the day it was shut up."

SUDDENLY the ears of every man in the office were tuned in on the loud speaker from which came a voice easily recognizable as that of Wade, the lineman.

"We're at Meade," it said. "There's been hell here. Looks like one man's been shot and another batted over the bean with a brake stick."

"Are they dead?" Barclay had taken the transmitter. "Do you know who they are?"

"No, both alive. We can't tell who they are till we get 'em washed up and some of the blood off their faces. We've sent for a doc and he oughta be here pretty quick now. Both bulls, Rankin and Derne, are with me. There was a big fight, I reckon. The phone switch was half open and the key on Seven standing wide—"

"Stay there, Wade," Barclay interrupted. "Have the bulls keep their mitts on those birds till we find out what's been going on. I'm coming out on a special."

He turned to Shark. "Order an engine and my car quick as possible," the super instructed. "Tell the caller to step on it and notify the crew we want speed. I'll be leaving here in fifteen minutes; and I want Dr. Flanders to go along. Wire the hospital we may have some patients for 'em and have 'em meet us with an ambulance. Get the engine number and have us all fixed up, Kinsman. And give us the railroad. I want the fastest damned run ever made on the Central!"

"Hook my car on, too, Barclay," said General Manager Hogarth. "I'm going along."

IT was foreboding that night as Liberty got out of her roadster where she had parked it back in the timber a mile from the destination in her mind, the closed office at Meade. She reasoned that would be the logical point for the ghostly dispatcher to operate from.

Cautiously she made her way through the darkness to the little building that stood a good half mile from the town it represented. The key to the office had been left with the agent at Bradford and Liberty had "borrowed" it for this occasion, so she had no difficulty in entering.

The place was dark, gloomy and smelled musty in the dead air. In spite of her determination the girl felt chills

running over her body. Her heart beat so loudly she imagined it might be heard outside.

"Gee!" she shivered. "I didn't know it would be quite so spooky!"

The silence seemed to sift down and strangle her for a moment, but she threw aside this feeling and sought the freight room door, which she opened.

Liberty was planning on a hiding place from which to observe whatever might be going on inside the office. While contemplating her next move she heard footsteps outside. *Some one was approaching stealthily!*

She caught her breath in sudden fright. It was a most undesirable position. The girl wished now she were not there, wished she had taken the precaution to lock the door, but it was too late now! Already she could hear the knob being tried. The door was creaking open.

She stepped back into the freight room and closed the connecting door all but a crack, enough to give her a vision of the office.

The click of the lock told her the outside entrance had been closed again and now she could hear the soft tread of feet moving toward the table where the telegraph instruments were located. Her fear was gone now. In the excitement of possible discovery as to the identity of the phantom dispatcher her nerves were steady, her whole being alert and eager.

A flash of light centered on the small switchboard and in it she could see nimble fingers moving the brass plugs. The newcomer was "cutting in" the instruments. Another second and the click of a sounder told her he had accomplished it. There was a moment of adjustment as he regulated the sounder and then he was calling the relay office where Winegarten worked.

Liberty gasped as she heard him send the message in clear Morse. The gleam of light had been put out and the watching girl had had no glimpse of the sender's face.

With a flash in her left hand and a small, nickel-plated gun in her right, she drew a deep breath and stepped through the door, clicking the flash on.

And then she gave a startled exclamation, half gasp, half surprise: "YOU?"

INVOLUNTARILY the girl stepped back as she uttered this word. Before her, head bandaged, unbelief registering in the eyes that had penetrated behind the glare of the flash, stood *Rick Willoughby!*

"My, God! What are you doin' here, Liberty?" he demanded.

"I might ask the same question," she replied weakly in a voice that seemed tired, "only I don't need to. I *know* why you're here. I—I—merciful heavens! To think you'd do a thing like this—"

"Listen, Liberty," the man protested. "You're gettin' me wrong. I'm here to—"

"Don't speak to me, please," she broke in. "I don't want to hear you, don't ever want to see you again! Oh, I'll keep my mouth shut. Don't think I'll give you away. I set out to find the man who's been tying up the road and caused me to lose my job. I found him, all right! But I'll never tell—you're safe—even if you did lie at the investigation."

"I won't have you misunderstand," Rick interrupted. "You've got to listen—"

But the girl was backing slowly toward the door.

"And I thought you was in the hospital," she went on in biting tones, "an-

other of your smooth ideas, I suppose. Don't you dare come another step nearer! I'm afraid of you now, since I've found out what you are."

Rick noted the nickel-plated gun and the muzzle pointing straight at his breast. Even in the excitement of the situation he noticed that the barrel did not waver but was held even and steadily.

"You're safe, as long as you don't try to touch me," warned the girl. "You double-crosser!"

Before he could say or do anything more the door shut behind her and Rick stood blinking foolishly at the exit.

"Whatta dame!" he mused.

Rick waited uncertainly for a moment, debating whether he should follow and see her safely home.

"A dame who's got nerve enough to come to this dump like she did will make it home all right, I guess," he reasoned, "and she wouldn't appreciate my company anyway." He turned back to the instrument table. "I got to finish what I started!"

The ex-dispatcher glanced at his watch in the gleam of his flashlight and then screwed the sounder down so it could not be heard outside and arouse suspicion. Next he took a stick of chewing gum from his pocket, masticated it a moment, pushed the phone button in and secured it in that position with the wad of gum. Then he threw the switch that cut the phone-set in.

"There's dicks and ops listenin' in along the line if they done what I told 'em in that message I sent Winegarten," he thought. "Somebody will be cut in on it all the time, and if anything happens in this office they'll hear it!"

At the conclusion of these preparations Rick stepped through the door into the freight room and took up his vigil of watching and waiting as Liberty Langtry had done a short time before.

"Kinsman's usin' the wire for his train orders," he mused as the faint clicks told him what was going on. "They must have done what I told 'em. Bet they're wonderin' where that come from."

He reached up and felt the bandage on his head. "That bird like to have got me last night," he murmured. There was a dizzy feeling in his brain and his head hurt him. "A fish-pole phone like work train conductors use with a ground connection and the overhead bridge at Cross Hollows made an ideal arrangement to put out the phonies."

THE expected guest must have entered the office in an expert manner. Rick did not hear him come in, was not aware of his presence until he heard a muttered exclamation from the vicinity of the telegraph table.

"That's funny," the voice was saying. "They musta forgot to cut the instruments out when they closed this dump."

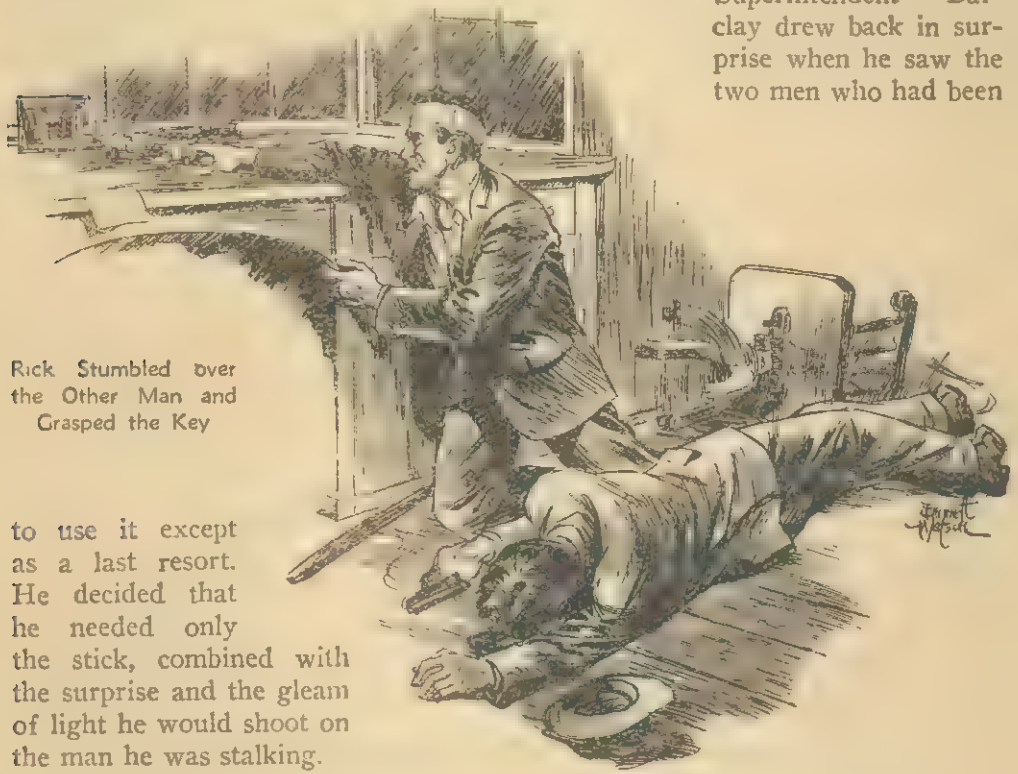
A flashlight threw its glare on the switchboard and as Rick stepped through the door quietly he saw a man's fingers putting a brass plug in a position that would ground the wire east. A moment later the key was being worked and he was calling Bradford and signing DS. As soon as the operator at Bradford answered another phantom order was being sent.

No. 10, engine 2753 meet Extra 3128 west at Sikes.

Rick marveled at the man's skill. He could have sworn that fist was Kins-

man's, so perfectly was it imitated. It had the same jerky, catchy swing that characterized the dispatcher.

Rick took a step forward. In his hand he held a brake stick. There was a gat in his pocket but he had no desire to use it except as a last resort. He decided that he needed only the stick, combined with the surprise and the gleam of light he would shoot on the man he was stalking.



Rick Stumbled over the Other Man and Grasped the Key

"I've got you!"

As he spoke he turned the flash on his quarry. But Rick Willoughby had not figured on the automatic which was lying on the table in front of the phantom dispatcher.

The man whirled, picked it up and fired a quick shot. Rick swerved to one side as he caught the glint of the barrel and brought the brake stick down hard. It struck on the intruder's skull just as the shot sounded.

And then things went black. Only the clicking sounder was to be heard in the lonely office at Meade. In spite of his failing senses Rick stumbled over the other man, grasped the key and ticked out a call for help: "Come Meade quick."

Then he slumped to the floor.

And that's how Wade and the special agents found them. And that's why Superintendent Barclay drew back in surprise when he saw the two men who had been given medical aid by a local doctor.

Rick was still unconscious, a bad wound in the chest. But the other man had been revived and sat sullenly, his hands encased in bracelets.

"So it's Branson!" Barclay said.

The manacled man nodded.

"What have you got to say for yourself?" the super demanded. "You'd better come clean, I'm warning you!"

"I'll talk," Branson said dismally. "I'll spill it all. Dick Amick, of the International Bus outfit hired me to do it. He wasn't afraid of the L. & A. beatin' him on the contract but he was

damned afraid of the Central. He figured by puttin' Nine and Ten in late five or six nights would do the trick.

The entire episode was soon cleared up. Branson said he had slugged Rick at Cross Hollows when the dispatcher almost caught him red-handed using the fish-pole phone at the overhead bridge and he had placed the incriminating note in Rick's pocket.

Amick fled but was caught and placed in jail, while the mail contract was awarded to the Central.

IT was three long months before Rick made his way up the stairs to the dispatcher's office and took the transfer again.

On his first day back in the office Rick watched for a chance when Shark Henderson appeared to be busy. At that moment he called up Bradford.

"Hello, Liberty," he said when she answered. "I'm glad you're back."

"Hello, Rick," came her musical voice. "This is a pleasure!"

The dispatcher's face was wreathed in smiles. "Now, about that marriage proposition—" he began, and stopped.

Shark laughed out loud, at which Rick cursed inwardly. That guy was always listening.

"You once made a crack about not wanting to marry a fellow as long as grass grows and water flows," Rick went on. "Do you still mean that?"

"It's winter, Rick," Liberty replied. "The water is frozen, so it's not flowing. And the grass is dead—"

"Now laugh, damn you!" Dispatcher Rick Willoughby said to Shark Henderson, the night chief.

The Sunny Side of the Track

HE TOLD THE TRUTH

"SORRY," said the roundhouse foreman, "I can't give you a job. We don't need any extra help just now."

"That's all right," said the boomer, "I wouldn't be much help."

* * *

BAWLING OUT A HOGHEAD

NEARLY thirty years ago trains of the Canadian Pacific Railway and the Canada Atlantic raced each other daily between Montreal and Ottawa. The timetable called for about two hours and a quarter between those cities, but ambitious engineers who refused to take the other fellow's dust frequently made it in less than two hours, much to the delight of thrill-loving passengers.

On one occasion Baron Shaughnessy, big chief of the C. P. R., called a hoghead on the carpet for overspeeding. "They tell me that you've been speeding," he began.

"Yes, sir," the hoghead admitted, "but—"

Shaughnessy interrupted to give the culprit a thorough bawling out. By the time he finished, the chastened engineer backed out of the president's office with the solemn determination never to speed again.

"Now remember," the big chief emphasized as a parting shot, "no speeding."

"No, sir," the engineer promised.

"But," added Shaughnessy, "don't let the other fellow beat you!"

* * *

A STRANGE COINCIDENCE

LOOKING under his berth one morning, a sleeping-car passenger found mismated shoes, one tan and one black, and protested to the porter.

After scratching his head in bewilderment, the Negro replied: "Well, ef dat don't beat all! Dat's de second time dis mawnin' dat's happened."

* * *

PRETTY GOOD EVIDENCE

CONDUCTOR: "Is there any truth in the report that my Scotch flagman, Sandy, has bought a gasoline station?"

Lightning Slinger: "I don't know for sure but the "Free Air" signs have been taken down."—Woody, Los Angeles.

By the Light of the Lantern

Ask us what you want to know

RAILROAD questions are answered here without charge, but these rules must be observed:

(1) Not more than two questions at a time. No queries about employment.

(2) Owing to the number of queries, no engine specifications are printed except type, driver and cylinder dimensions, weight, and tractive force (t.f.).

(3) Sign your full name and address as evidence of good faith. We will print only initials, without street address.

(4) Always enclose a self-addressed stamped envelope, to facilitate our getting in touch with you if necessary.

(5) Answers to questions are published in this department. Don't be disappointed if they do not appear at once. This department is printed two months in advance of date of issue.

IS a conductor authorized to exercise any authority over an engineer in main line train operation?

(2) Do both the conductor and the engineer sign for their orders, or does the conductor alone sign for all orders?—V. L. M.

(1) The conductor has charge of the train, and on most railroads the engineer is required by rule to obey his instructions unless those instructions endanger the safety of a train, require violation of a rule, or cause injury to persons or damage to property.

(2) According to rule 210 of the Standard Code of the American Railway Association, those to whom a "31" order is addressed, except enginemen, must read it to the operator and then sign it. The copy for the engineer must be delivered to him personally by the conductor, and the engineer must then read the order to the conductor, as well as show it to the fireman and to the head brakeman, before proceeding. On some roads, however, this rule is slightly changed, and calls for the signature of the engineer as well as that of the conductor.

WHAT is the cost of an ordinary wooden box car?

(2) What materials are required to build one mile of single track railroad?—T. M., Shelton, Conn.

(1) No all-wooden box cars are being made these days. A steel-frame, wooden-sheathed car of 80,000 lbs. capacity would cost from $2,000 to $2,300, depending on specifications, the number of cars ordered, etc. Steel cars cost a little more, although the difference is not great. Recently the Pennsylvania gave an order for 7,000 steel cars costing $16,000,000, or an average of about $2,285 each. Of these 5,500 were box cars and the rest flat cars. Since the latter generally do not come to more than $1,900 each, the steel box cars (100-ton capacity) probably cost an average of $2,392 each. Five hundred of them were equipped with auto loaders, and thus were more expensive than the other 5,000.

(2) First, of course, a roadbed is necessary. The materials for this depend entirely upon the nature of the country. Thousands of tons of steel may be necessary if trestles are to be built, etc. Assuming, then, that the roadbed is cared for, and that 100-lb. rails are to be laid, the following amounts of material would be necessary: 176 tons of rail, about 278 rail joints, 10 kegs of bolts (4 to a joint), about 1,115 spring washers, 3,520 ties and 14,080 spikes (about 43 kegs) if ties are 18 in. apart, or 3,167 ties and 12,672 spikes (about 39 kegs) if 20 in. apart. The above figures assume 89% of all the rail lengths to be 39 feet long, and the remainder to average 32 feet—the common practice on most American roads.

WHAT are the square-topped boilers which are used on Pennsylvania RR. engines? D. E. F., Tampa, Fla

(2) Why does the Pennsylvania use the Belpaire boiler to the exclusion of other types?—J. R. D., Mt. Pleasant, Mich.

(1) The Belpaire type. See below for details.

(2) The Belpaire boiler uses a firebox whose flat crown sheet joins the side sheets by short curves and whose roof sheet and upper part of

the outer side sheets are flat also. These flat plates are easily braced and joined by straight stays, eliminating crown bars. The Belpaire type is claimed to have this advantage as well as the advantage of carrying more water over the crown sheet. At any rate, it has been and is being used on many railroads and has been very successful. The Great Northern uses it almost exclusively, and it is the prevailing type of the Pennsylvania.

WHAT is the ratio of a curve and how do you find it?—H. C. C.

There is no such thing as the "ratio" of a curve, at least insofar as a railroad track is concerned. The radius of a curve is simply the distance from the center to the outside of the circle formed by the curve; the shorter the radius, the sharper the curve. In railroad practice curves are usually designated by degrees, and the degree of a curvature is defined as the number of degrees of the central angle subtended by a chord of 100 feet on the curve. To express it simply, pick out two points on a curve 100 feet apart in a straight line (not via the curve), then draw an imaginary line from each of these two points to the point which would be the center of a circle formed by the curve if it were continued at exactly the same curvature. The degree of the angle at which these two lines meet is the degree of curvature. A 1° curve has a radius of 5,730 feet; 5°, 1,146 feet; 15°, 382 feet; 25°, 229, etc.

C. P., Monterey Park, Calif.—Since our Dec., 1933, issue came out, readers have sent in information about the railroad which you apparently were asking about. According to F. J. Early, Santa Fe Passenger Agent at Riverside, Calif., this road was called the Hueneme, Malibu & Port Los Angeles Ry. It was constructed by the late Samuel Rindge, owner of the Rindge Ranch, located about 12 or 15 miles above Santa Monica on the coast. It was built to ship out the lemons for which this ranch was famous years ago, and also to enable the owners to get into it, as the coast line is quite rugged. Apparently it was abandoned about 1906. Mr. Early says that he has never seen any of its motive power, but that there are still a number of flat cars on the rusted rails about 10 miles north of Las Flores Canyon. Many of the high wooden bridges are being cut down for the timber. It also ran very close to the ocean's edge and was apparently built on the sand. Some of the rails may still be seen along the highway. This road connected with the then Southern Pacific at Port Los Angeles, where the famous old "Long Wharf" ran into the ocean more than a mile, and where all the steamers docked to discharge cargo and passengers for Los Angeles before the government became interested in San Pedro Harbor. The Long Wharf has been dismantled many years and now the line which ran to it, and which has been operated by the Pacific Electric for many years, is abandoned.

W. F. Wiebers, Pacific Electric agent at Whittier, Calif., and Charles A. Tegner, 314 Santa Monica Blvd., Santa Monica, probably have additional information, according to Mr. Early.

WHAT is a "Stumpf" or "Unaflow" locomotive?

(2) Was the gas-electric car successful on the Canadian National?—B. T., Hewlett, N. Y.

(1) The Unaflow or Uniflow (as it is sometimes spelled) locomotive is as yet a European development, and is often called the "Stumpf" type because many such engines were designed by Professor J. Stumpf. The steam locomotive as we know it is a counter-flow engine, that is, steam is exhausted from the same port by which it enters, and thus its direction of flow must be reversed. The Uniflow locomotive, on the other hand, exhausts steam from a special set of exhaust ports opposite the entry ports, and therefore does not reverse the steam direction. This type is being tried out in Europe, especially in Germany and in England, and results have shown it to be more economical than and as flexible as the counter-flow locomotive. The Delaware & Hudson modified the Uniflow principle and applied it to its Pacific type No. 653, but this seems to be its only application on railroad engines in this country. The Uniflow principle has been used here in stationary engines, and the Skinner Engine Co., Erie, Pa., has manufactured them.

(2) Apparently gas-electric cars are being used on the Canadian National very successfully, for the road has 55 of them in service.

J. K., Buffalo, N. Y.—The tender booster, like the locomotive booster, is automatically cut out at a speed higher than 15 m. p. h.

ARE any locomotives powered with turbine motors?—K. N., Brooklyn, N. Y.

Quite a few turbine locomotives are used in Europe, chiefly on the German and Swedish State Railways. They usually employ steam pressure of from 200-300 lbs., and some of them are condensing locomotives, that is, they condense the exhaust steam back into water. They seem to be successful and theoretically are more efficient than cylinder locomotives.

C. W. M.—Ulster & Delaware 4-4-0 type Nos. 8 and 12 had 19 x 24 cylinders, 66-in. drivers, 190 lbs. pressure, weighed 218,600 lbs. with tender, exerted 21,200 lbs. t. f., are no longer in service. Buffalo, Rochester & Pittsburgh No. 172 has 20½ x 26 cylinders, 200 lbs. pressure, weighs 320,000 lbs., has 73-in. drivers, exerts 25,445 lbs. t. f.

Who Says Steam Is on Its Way Out? Here Are Some Proposed Streamlined Steam Locomotives Designed by Otto Kuhler for the American Locomotive Co. Intended to Haul Light Passenger Trains at Speeds of 120 Miles an Hour or More, They Are 4-4-0 (Top) and 4-4-2 Types (Center and Bottom)—Simple, Regulation Steam Engines Enclosed in Polished Plates. Any Railroad That Wants Them, Says Alco, Can Order Them and Get Them on Short Notice

EXPLAIN the operation of the exhaust steam injector.—W. T., Flemington, N. J.

As we have explained before, the function of the injector is to put water into the boiler. To do this it uses steam from the boiler, which imparts velocity to a stream of water from the tender. The water acquires so much momentum that it overcomes the pressure in the boiler and enters it. There are two kinds of injectors: the lifting, which is situated higher than the tender water level, and the non-lifting, which must be below the water level. The exhaust steam injector is similar to the ordinary non-lifting injector, except that it works at pressures of from ½ lb. to 20 lbs. It is automatic, using live steam when no exhaust steam is available (when the engine is standing still or drifting), and acts as a feedwater heater as well as injector, for it heats the water up to 300°. It saves fuel and water, reduces cylinder back pressure, and causes the boiler to steam more freely.

J. A. U., Penn's Grove, N. J.—The High Point, Thomasville & Denton RR., which runs from High Point to High Rock, N. C., is 34 miles long, has 11 locomotives, 35 freight and 12 passenger cars. It was incorporated in 1923 to succeed the Carolina & Yadkin River Ry., which in turn was incorporated in 1909. Although the road was completed in 1914, the present company did not commence operating as a common carrier until

1924. A year ago it had 115 employees. It has been a good paying road: in 1931 its net income was $67,017, which represented about 30% return on its stock. In 1932 it had $27,732 net income.

E. S. T., Hudson, N. Y.—The Central New England RR. was chartered in 1899 to succeed the Philadelphia, Reading & New England, which was sold under foreclosure. In 1912 it had 276 miles of line, 65 locomotives, 41 passenger, 197 freight and 28 caboose cars. It has always been controlled by the New Haven and is now a part of that system.

DOES any railroad in the U. S. beside the Pennsy haul engines under steam in trains with only a fireman in charge?—A. L. A., Sunbury, Pa.

We assume you are referring to the hauling of a live engine in a train, as a part of the consist. We know of no railroad which uses two men on such an engine. After all, only one man is needed to watch the fire and water, and there would be no point in paying an engineer to ride the cab of a locomotive which is not being worked.

WHAT types haul the "Fast Flying Virginian" of the C&O out of Richmond to Charlottesville, Va.?—F. H. L.

(2) Was the Chesapeake & Ohio Ry. ever connected with the Chesapeake & Ohio Canal?—W. P. E.

(1) Classes F-15 and F-16, Nos. 430-456, 460-467, 4-6-2 type, handle it in the territory mentioned; Class J-2, Nos. 543-549, 4-8-2 type, to Clifton Forge or Hinton from Charlottesville; Classes F-18 or F-19, Nos. 480-485, 490-494, 4-6-2 type, west of these places.

(2) The C&O has never been connected with the C&O Canal. The B&O acquired the Canal properties some years ago.

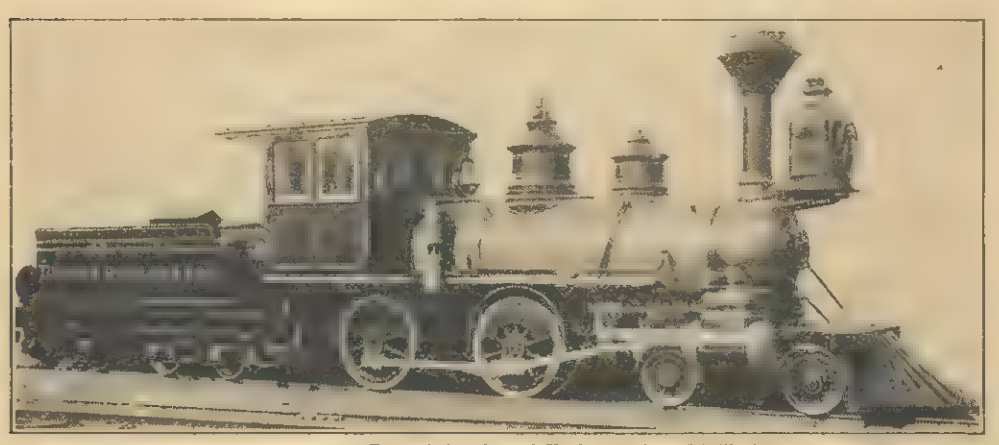
WHAT is the Utah Ry. and where does it run?—D. A. S.

The Utah Ry. Co. was incorporated in 1912, opened in 1914. It operates as a coal railway from Mohrland to Provo, Utah, 99 miles. It runs over the D&RGW from Utah Ry. Jct. to Thistle, 52 miles, and owns the 21 miles between Thistle and Provo, which is used by the D&RGW. It also owns the Utah Terminal Co., and thus its total mileage is 263. It has 16 locomotives, 20 freight and 11 service cars, and has a half interest, with the UP, in 1,986 steel cars, and in the terminal at Provo. It uses 75-110 lb. rail.

C. L. F., Tonica, Ill.—Next to the Pennsylvania, the New York Central hauls more freight and carries more passengers than any other road in the country.

C. P., Elizabeth, N. J.—The famous Tunkhannock Viaduct of the Lackawanna north of Scranton, Pa., was built from 1912-1915 and cost $1,500,000. It is 2,375 feet long, has ten concrete spans 180 feet long and 2 spans 100 feet long. One man was injured fatally in its construction: A laborer threw a plank to him as he was standing on a skew back of an arch, causing him to fall.

(2) The control from the front car of the motor circuits on the Lackawanna multiple-unit electric cars is simply effected by placing the master controller handle in the positions desired. This connects the 32-volt control circuits to the proper train line wires, which are connected between cars by train line cable jumpers. Thus a whole train of cars can be controlled from either cab of either end car in the train.



From Collection of Karl Grosche, 755 W. Cross St., Baltimore, Md.

This Old Baldwin-Built Mill Used to Run on the Narrow-Gage Line of the Denver & Rio Grande

Photo by Railroad Photographs, 5 Appian Way, Allston, Mass.

The One and Only Motive Power of the Ventura County Ry., a Small Line Running between Oxnard and Round Mountain, Calif. The Engine, No. 1, Was Built by Baldwin in 1906

F. H. D., Peabody, Mass.—Burlington Class P-6, 4-4-2 type, Nos. 2580-2585, built by Baldwin in 1905, has 21 x 26 cylinders, 69-inch drivers, 210 lbs. pressure, weighs 194,800 lbs. (343,000 lbs. with tender), exerts 29,610 lbs. t. f. It has 44.1 sq. ft. grate area, 2,875 sq. ft. heating surface, and its tender holds 13 tons of coal and 8,000 gals. of water.

E. M. S., Los Angeles.—A. M. Hains, Nottawa, Mich., has supplied us with the following information about the first train order, mentioned on page 93 of our Dec. issue: "At some station on the eastern division of the Erie a train was waiting for the opposing train, which was due. Superintendent Minot was on the waiting train. He was in a hurry, so he telegraphed the next station and asked if the opposing train had arrived. It had not, so Minot instructed the operator there to hold the train, as he was going to run against it to that station. When he informed Engineer Isaac Lewis of his intended move, the engineer said he would not run on any such fool arrangement, so Minot ran the engine himself and the engineer went back to the rear car. When the train arrived at the next station, the opposing train was not there. The performance was repeated, and Minot's train arrived at Port Jervis just as the opposing train pulled off the Delaware Division."

J. A. L.—Following are specifications of Belfast & Moosehead Lakes engines: No. 16, 4-4-0 type, has 18 x 24 cylinders, 56-inch drivers, 160 lbs. pressure, weighs 159,000 lbs. with tender (104,000 without), exerts 16,800 lbs. t. f., was built by Manchester in 1893. Nos. 17 and 18, 4-6-0 type, have 20 x 26 cylinders, 56-in. drivers, 180 lbs. pressure, weigh 234,500 lbs. with tender (144,500 without), exert 25,380 lbs. t. f., built by Manchester in 1901.

J. M. W.—CPR No. 5900 has 93.5 sq. ft. grate area, 96 x 140 3/16 in. firebox and 7,043 sq. ft. of heating surface. No. 5400 has 70.3 sq. ft. grate area and 4,425 sq. ft. heating surface.

C. R., San Francisco.—The 700 class of the SP is 4-8-4 or Northern type. The 4-6-4 type is the Hudson type. For the complete classifications of locomotives, showing relationship of wheel arrangement to type and names, see page 90 of our Dec., 1933, issue.

WHAT are the railroads operating in Iowa? (2) Where does the Monongahela Ry. run?—C. V. S., Farley, Ia.

(1) Atlantic Northern.
Burlington, Muscatine & Northwestern.
Chicago & North Western (including CStPM&O).
Burlington.
Chicago Great Western.
Milwaukee Road (CMStP&P).
Rock Island (CRI&P).
Des Moines Union.
Davenport, Rock Island & Northwestern.
Great Northern.
Illinois Central.
Manchester & Oneida.
Minneapolis & St. Louis.
Pershing Coal Co.
Santa Fe.
Sioux City Terminal.
Tabor & Northern.
Toledo, Peoria & Western.
Union Pacific.
Wabash.

(2) The Monongahela Ry., whose roster of motive power was printed on page 131 of our Dec., 1933, issue, runs from Brownsville to Fairmont, Pa., has 8 passenger and 82 miscellaneous cars, 178 miles of line.

H. S. J.—According to H. N. Hardenbrook, U. S. S. *Maryland*, San Pedro, Calif., the narrow-gage Alta tramway was built from Alta to Wasatch, Utah, to carry ore from the mines at Alta to Murray. A standard gage Shay type was used. When the mines gave out, the narrow-gage equipment was loaded and sent away, but the D&RGW still has a track up to Wasatch, and sends a Shay up whenever there is a shipment of ore. Most of the ore is trucked down to the smelter now.

H. K. R.—Following is a list of the most important "company magazines" printed by various railroads:

The Rail (C&O and Pere Marquette), Railway Exchange Bldg., Chicago, Ill.

Missouri Pacific, MoP Lines Bldg., St. Louis, Mo.

Santa Fe, Railway Exchange Bldg., Chicago, Ill.

Mutual Magazine, 15 N. 32 St., Philadelphia.

Louisville & Nashville, L&N Bldg., Louisville, Ky.

Illinois Central, Room 817, Central Station, Chicago.

Norfolk & Western, Roanoke, Va.

Erie, Midland Bldg., Cleveland, O.

Central of Georgia, Savannah, Ga.

Canadian National, Montreal, Que., Canada.

J. J. V., Clayton, Mo.—In our Nov., 1931, issue we had a complete history of the Sandy River & Rangely Lakes RR. This will give you all the information available about it up to that date. In July, 1932, it suspended operations, but in April, 1933, resumed them, and now runs a single train, which, together with its mail contract, pays operating expenses. It now operates about 43 miles of track and has 309 cars and 10 locomotives.

(2) On pages 86 and 90 of our November, 1933, issue we printed photos of and information about the Laramie, North Park & Western. It connects with the UP at Laramie, Wyoming.

W. D. S.—Missouri Pacific No. 1301, 2-8-2 type, built in 1919 by Lima, has 26 x 30 cylinders, 63-in. drivers, 200 lbs. pressure, weighs 304,300 lbs. without tender, exerts 65,190 lbs. t. f with booster. No. 1440, 2-8-2 type, has 27 x 3;

Photo by W. R. Osborne, 214 Lippincott Ave., Riverside, N. J.

They Had to Move This Engine through the Streets of Philadelphia Recently—from the Railroad Tracks to the Franklin Museum, Where She Will be on Display and Will be Used to Test Bridge Supports. She Is the 60,000th Engine of the Baldwin Locomotive Works, a 4-10-2 Type Built in 1926 for Experimental Purposes, and is a Three-Cylinder Compound (Very Rare in This Country) with 27x32-Inch Cylinders, 63½-Inch Drivers, 350 Lbs. Pressure, and 82,500 Lbs. Tractive Force. She Weighs 700,900 Lbs. With Tender, Was the Heaviest Load a Philadelphia Street Has Ever Carried. A Temporary Track Had to Be Laid ahead of Her, over Which She Was Pulled by a Winch

cylinders, 63-in. drivers, 190 lbs. pressure, weighs 326,900 lbs. without tender, exerts 68,675 lbs. with booster, built by Alco (Schenectady) in 1923. No. 1512 has same specifications except it weighs 330,400 lbs. and was built in 1924. No. 6404, 4-6-2 type, has 25 x 26 cylinders, 73-in. drivers, 200 lbs. pressure, weighs 254,000 lbs. without tender, exerts 37,840 lbs. t. f., built by Alco in 1910. This information through courtesy Railroad Boosters' Club, Chicago, Ill.

WHAT were the engines on display at the World's Fair last summer?—M. T. H., Butterfield, Minn.

Following is a list. The dates denote the year built. The first 12 took part in "Wings of a Century" pageant:

Illinois Central, modern steam locomotive. Every two weeks the engine was changed.

No. 999, New York Central & Hudson River RR., now New York Central.

No. 9, old-time Union Pacific 4-4-0 type built in 1865.

"Thatcher Perkins," No. 117, B&O 4-6-0 type built in 1863.

"Minnetonka," first NP engine, 0-4-0 type built in 1870.

No. 1401, Illinois Central, 2-4-4 T type, built in 1891.

"C. P. Huntington," Central Pacific, now Southern Pacific, 2-2-4 T type, built in 1863.

"Pioneer," Cumberland Valley RR., now PRR., 2-2-2 T type, built in 1851.

"Thomas Jefferson," B&O, 1835.

"DeWitt Clinton," Mohawk & Hudson RR., now New York Central, 1829.

"Tom Thumb," B&O, 1829.

"General," Western & Atlantic, now NC &StL, 4-4-0 type.

Modern electric, Milwaukee Road.

"Pioneer," Chicago North Western, 4-2-0 type, 1848.

"Mississippi," Natchez & Hamburg, now Illinois Central, 1836.

"John Bull," Pennsylvania RR., 1831.

"Atlantic," B&O, 1832.

No. 1403, Delaware & Hudson, modern triple-expansion 4-8-0 type.

No. 5004, Rock Island, modern 4-8-4 type.

No. 3000, Burlington Route, largest 4-6-4.

No. 5289, New York Central, famous 4-6-4 or "Hudson" type.

No. 35, Burlington, 4-4-0 type, 1882.

"President Cleveland," modern B&O 4-6-2.

"Ross Winans," No. 217, B&O, 1853.

"William Galloway," B&O, 1837.

"York," B&O, 1831.

No. 3024, Chicago & North Western, 4-8-4.

"Stourbridge Lion," Delaware & Hudson, 1829.

Diesel electric switcher, Burlington.

F. J. B., Danbury, Conn.—New Haven Class L-1, 2-10-2 type, Nos. 3200-3249, has 30 x 32 cylinders, 63-in. drivers, 200 lbs. pressure, exerts 77,800 lbs. t. f. Five of them have 185 lbs. pressure, 72,000 lbs. t. f. Class J-1, 2-8-2 type, 3000 series, has 25 x 30 cylinders, 200 lbs. pressure, 63-in. drivers, exerts 50,600 lbs. t. f. Five of them have 180 lbs. pressure, exert 45,535 lbs. t. f. Class J-2, 3100 series, has 26 x 32 cylinders, 200 lbs. pressure, 63-in. drivers, exerts 58,372 lbs. t. f. Class R-1, 4-8-2 type, 3300 series, has 27 x 30 cylinders, 200 lbs. pressure, 69-in. drivers, exerts 53,900 lbs. t. f.

OF all the books which have appeared about railroads and railroading in the last few years, by far the most complete, interesting and easy to understand is "Steel Trails," by Martin D. Stevers, published recently by Minton, Balch & Co. ($3.75). The author has presented in a popular style the epic of the railroads, and he has written it so that anyone can understand it. Yet it contains facts and figures, anecdotes and sundry bits of information that many railroad men can read with profit. It starts with a brief but remarkably complete history of railroading and its development in America, in which it takes up everything from air brakes to equalizers.

Then comes a fascinating section on the modern railroad—not general descriptions, but the "inside dope": how much engines will pull, how much curves are superelevated, what the size of the locomotive's nozzle has to do with its performance, what "sun kink" is, how passenger trains are scheduled, how the vestibuled car happened to be adopted, and so on. There is some more railroad history, with amusing accounts of such railroad kings as Daniel Drew, Jay Gould, and Commodore Vanderbilt. One incident tells how Gould, who was then president of the Erie, outwitted Vanderbilt. The Commodore (who ran the New York Central) cut the rate for beef cattle between Chicago and New York from $125 to $100; Gould dropped it to $75, and thus the war began. Finally Vanderbilt got down to $1 a car, and Gould gave up, whereupon all such livestock went over the New York Central. Finally the truth came out: Gould had bought up all the livestock west of Buffalo, and was making a fortune on Vanderbilt and the New York Central.

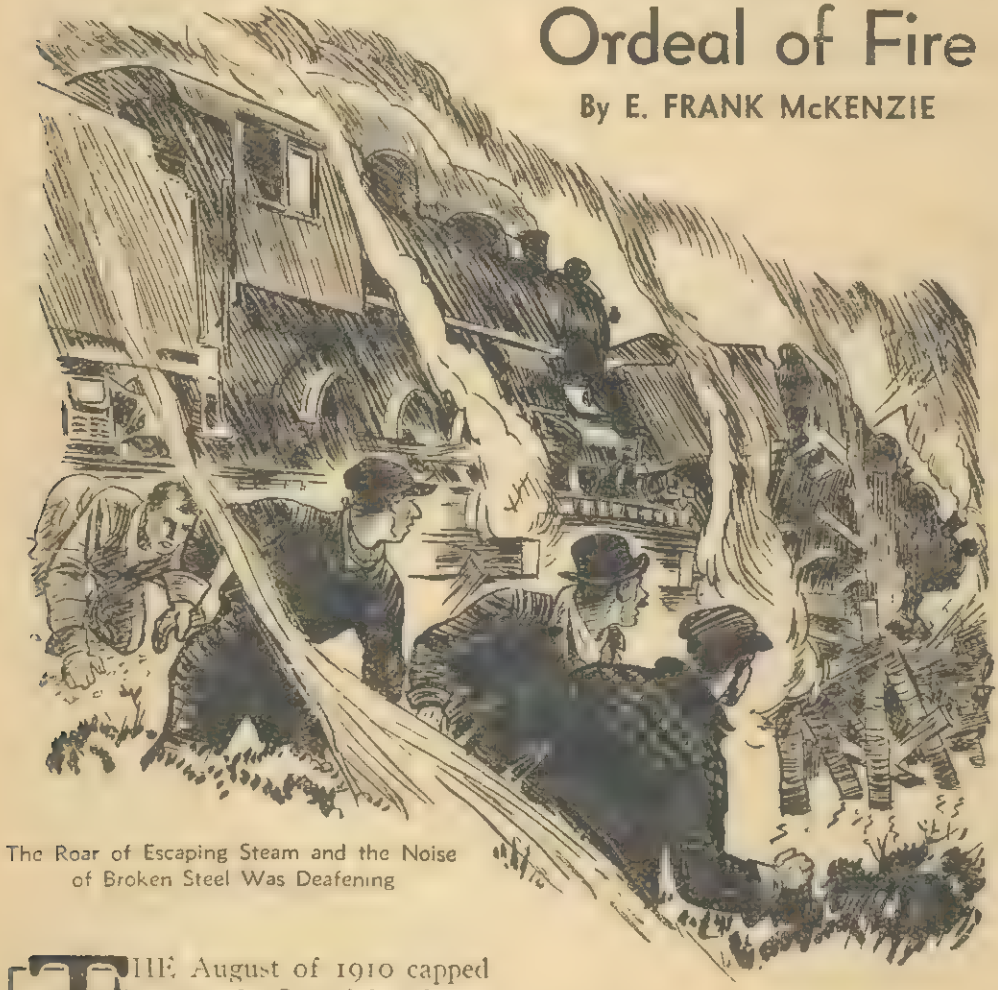
The story of the great transcontinental is told, and there are chapters on freight train operation, freight rates and how they are made, and the railroad of the future. Always details are given; always things are explained. In brief, if you have a general question about railroading, you will almost be sure to find it answered in "Steel Trails." We must add that the book contains a few mistakes, such as "30" instead of "31" order, but most of them are insignificant.

TRUE TALES OF THE RAILS

Actual Happenings Told by Eye Witnesses

Ordeal of Fire

By E. FRANK McKENZIE



The Roar of Escaping Steam and the Noise of Broken Steel Was Deafening

THE August of 1910 capped one of Ontario's dryest summers in many years. The whole country from Lake of the Woods to Lake Superior, roughly 300 miles, was baked to a crisp. Bush fires appeared at many points in this area simultaneously. Smoke from the smoldering muskegs was in the air for many days.

Then came a stiff breeze. It fanned these into action. The country all along the old Canadian Northern, now one of the Canadian National lines, leaped into flame. In northern Minnesota a broad, twenty-mile swath of fire swept up toward Beaudette, and destroyed everything in its path, including thirty lives. It devoured the town, hopped the Rainy River, which was about 1,500 feet wide at this point, and repeated the performance in On-

tario. People in the town of Rainy River were herded into cabooses and box cars, ready to move out at a moment's notice. And then, luckily, the wind changed.

At this time I was at Atikokan, the other divisional point, with several other train and engine crews. My crew was ordered to Rainy River at 10 A.M. the next day. The engineer was G. W. Campbell and the fireman Addie Smith. Incidentally, this combination was enough to make a hog climb a tree.

We got engine No. 309. Then we hitched the caboose on and high-tailed it out of town, with full tonnage and no meets. My brother, Dave McKenzie, was ordered out an hour behind us, on Extra 311.

Eleven miles out of town, at the first blind siding, Campbell headed in. Funny, I thought. I looked over my orders and hiked ahead. G. W. was down on the ground.

"Mac," he said, "one of the injectors is on the tramp completely, and the other is bucking."

"To hell you say," I replied, not knowing much about injectors.

We pow-wowed a bit, and finally decided to leave the train with the brakeman and take the engine to Bonning, eight miles ahead, and there get orders to return to Atikokan for repairs.

By the time we got started we couldn't see the markers for smoke. There was fire everywhere. We ran along over wooden trestles around curves, over burning muskegs, peering ahead as best we could, our eyes smarting and wet. The rumble beneath us told us when we hit a trestle, for we couldn't see the rails most of the time.

We were skirting the edge of a lake when the wind veered for a moment. "Zip!" went Campbell's brake valve.

"Unload!" he yelled.

We obliged, and in less time than it takes to say the word.

After we landed and had made sure we weren't hurt, we surely were grateful for the hoghead's alertness. The engine was practically onto a wooden bridge which was in flames and ready to go any minute.

"My watch! My watch!" complained Fireman Smith. "It's up in the seat box."

"Get it later," replied Campbell. "Too hot now."

WE were literally in a hell of a predicament. Fire on three sides and water on the other. Then, as we cussed our fix, I suddenly remembered that Extra 311 was not far behind us. I looked at my watch and saw we didn't have much time to spare.

Without explaining I hoofed it through the smoke to flag the train. I knew that the engineer would have a hard time seeing me, and that I'd have to flag him quite a distance up the track if I could.

But I couldn't get far. From a dry gully flames were sweeping across the tracks, making it impossible for me to keep going. I got a brain storm, loaded the tracks with torpedoes, and beat it for the nearby lake shore, intending to hike around through the water.

Then I heard two long and two short whistles in the distance. It was too late to detour. I hotfooted it back to the tracks, where I made another attempt to get through. But I was blocked. Now I could hear the roar of the train emerging from a rock cut into the open.

Finally the boiler front of the 311 thrust itself through a cloud of smoke. Her side rods were rattling; she was batting 'em for fair.

Wild-eyed with fright, and taking in the situation at a glance, the engineer on the 311 gave her the works and yelled to his pals: "Follow me."

He took a nose dive out of the window while the fireman and brakeman came sliding out the gangway.

With twenty-six flatcars loaded with steel rails crowding her, the 311 took her time about stopping. Before she had even slowed up so you could notice it she hit our engine, the 309. It was a terrible wallop. The 309 leaped ahead as though a mighty foot had kicked her. Then Extra 311, still on the rails, followed it up with another, which sent the 309 past the middle of the trestle, now a mass of flames.

Both engines and the trestle staggered, swayed, shook, and then settled down with a mighty, creaking crash, followed by rolls of smoke, steam and flames. The roar of escaping steam and the noise of broken steel was deafening.

We watched without saying a word. When the last reverberations of the shock had faded away into the crackle of burning wood, Smith spoke up.

"Where's my watch now, G. W.?"

We all had a laugh on that, and then the conductor of No. 311 asked what was next on the program.

We agreed that there was little we could do except wait, so we went down to the water's edge and made ourselves comfortable in the lake.

Toward evening the fire let down, and we were wondering if we were in for an all night session, when we heard voices and the swish of paddles. Presently a birch bark canoe skimmed around the bend of the lake. It turned out to be captained by Agent Gale of Bonning, who had been commissioned to look for the lost trains.

Soon we were landed at Bonning, where reports were sent to Port Arthur. Finally we trudged over to some food, and we did more than justice to liberal helpings of boiled sturgeon, spuds and blueberry pie. So ended another unsung day in the history of Canadian railroading.

The 999 Meets The 666

By W. SCOTT THOMAS

A HEAD-ON collision between two former Boston & Maine locomotives of the 2-6-0 type thrilled thousands of visitors at the Brockton Fair in Massachusetts last fall. These engines were about thirty years old. Bought by the Fair management at $1,500 each, they were hauled from the Billerica yards as dead engines. That little transportation job alone is said to have cost over $800.

The total weight of each engine, tank included, was 194,000 pounds. Arriving in Brockton, they were loaded on heavy automobile trailers and transported over the public streets a mile or more to the Fair grounds. While one of them was being moved, a stream of water like a geyser suddenly shot up out of the street. Her weight had broken a ten-inch water main!

At the Fair grounds a straight track, 1,500 feet long, had been laid in advance from one side of the grounds

Photos by W. Scott Thomas, 185 Iyer St., Providence, R. I.

The 999 (Top) and the 666 as They Looked before the Collision

to the other, opposite the grand stand.

Both locomotives had received light repairs and a complete repainting at the Billerica shops. They were painted the customary black, with white letters and numbers. The B. & M. 1406 became 666 and the name "Miss Brockton" was painted in large letters on her tank. The other engine, formerly B. & M. 1389, became No. 999, "Mary Wiggins," named after a movie girl.

The collision was scheduled for 5.30

P.M., September 12th. At that time plenty of steam was up in both engines, dense, black smoke poured from their stacks, and both were popping off. A crowd of about 20,000 was waiting impatiently.

Both engines backed to their respective ends of the 1,500-foot track and then ran back and forth slowly a few times. This was done to sand the rails and prevent the drivers from slipping.

A pistol shot was the "highball." Two long, loud blasts of the 999's whistle immediately followed. Then two similar blasts from the 666.

The doomed engines started up. When they were going possibly fifteen miles per hour, the engineers jumped off, after pulling the throttles wide open. At the same time Miss Wiggins leaped from the 999.

The iron horses rapidly gained speed as they approached each other on the single track. Spectators were breathless. The monsters were getting nearer, nearer! Now they were only a hundred feet apart. Now ten—in another split second—*bang!*

WITH a dull sickening thud they met in deadly embrace and there they stuck. The front end of each engine was jammed tightly into the other, like two stags with locked horns. Thereupon the crowd rushed over to see the extent of the damage.

The engine stacks were almost together, neither having broken off. Smoke was still coming from them. The air pump on the 666 was working vigorously. Steam, of course, was escaping from many different points.

There had been several tons of coal in each tank. At the moment of impact all of this coal was thrown violently into the cabs, almost completely filling the cabs and partially hiding from view both boilerheads and the instruments thereon. On both engines the force of the shifting coal crushed in the back walls of the cabs.

The 999's tank, leaking like a sieve, was sheared off the bolts that held it to the platform and slid ahead until it rested against the cab, while the trucks of the 666's tank both tore loose from their fastenings and thrust forward.

The spectacle was very exciting. Old-timers said it was the first arranged collision of locomotives in New England since the one enacted at Point of Pines, near Boston, thirty-odd years ago. Any reader who saw that other head-on is urged to send details.

The Mail Crashes Through

By W. E. WILLIAMSON

As Told to H. H. Miller

EARLY in 1906 there was bitter rivalry for the mail contract between St. Louis and Dallas, Texas. Three lines wanted the profitable government mail business: the M-K-T, the Cotton Belt and the Missouri Pacific.

At that time I was superintendent of the "Katy" at Denison, Texas, and remember well the three test runs. Our road beat the Cotton Belt and Missouri Pacific all three times, and received the contract to handle the mail. It was operated over the Frisco from St.

Louis to Vinita, Oklahoma, and the rest of the way to Dallas on our own tracks. But before we won the contract we had to do some tall traveling!

On February 4, 1906, our train No. 7, competing for the mail contract, was handled through Oklahoma by Engineer Dave Reece. He was a fast runner if there ever was one. Between Savannah and Kiowa, Oklahoma, Reece was letting her out. Of course, he had to run fast to make the schedule, but he certainly wasn't idling along at that time.

Near Kiowa he was traveling 76 miles an hour, and apparently was not slowing up much for the town. At the time it was snowing, sleeting and raining, and there was a strong wind from the south.

Anxiously Reece peered out the cab window, knowing full well that if something were to loom up ahead of him on the tracks he would not have time to stop before hitting it. Nevertheless, the mail contract was at stake, and since Dave knew every inch of the roadbed, his speed was justified.

He whistled for town. Running due south into the teeth of the storm, he tried to catch a glimpse of the station. Then, as suddenly as a thunderbolt, he saw a large herd of cattle on the crossing north of the station. He did not have time to shut off and apply the brakes. He realized that even if he did he could not stop in time. He thought swiftly, jerked the throttle even wider, and, yelling to his fireman, ducked behind the boiler head. At the same time he pulled the whistle rope down and held it there.

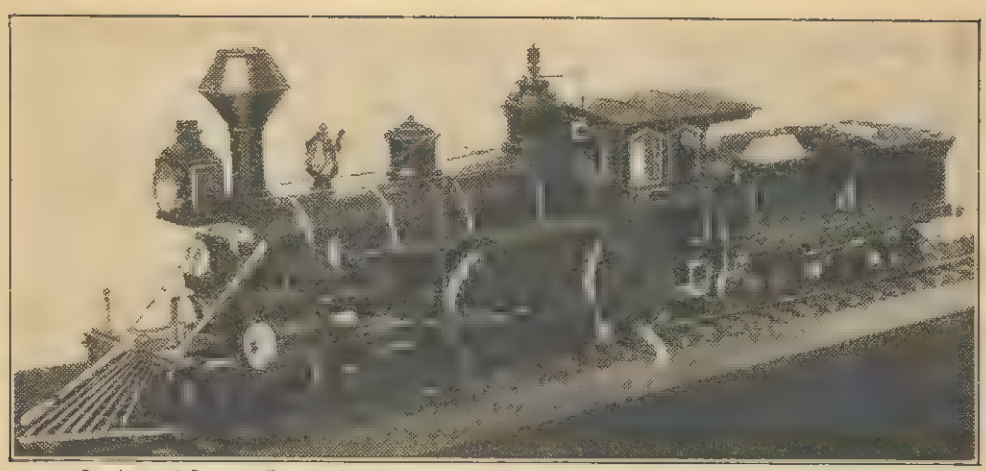
Never in the history of railroading, so far as I know, was there such a collision. The train hit the pack of cattle so hard that many of them were thrown to the top of the telegraph poles. About thirty cows were killed. But the train kept on going like a streak of lightning. At 75 miles an hour or better it sped onward through town, leaving such a trail of destruction as no one in Kiowa had ever seen.

At that time W. V. McClure, now a clerk in the U. S. District Court in eastern Oklahoma, was our claim agent at Kiowa. He happened to witness the accident. His description of it follows:

"I happened to be at Kiowa at the time, in Ward's general store. Everyone there knew about the race for the mail contract, was on the lookout for the train. We all knew Dave Reece was going to be on No. 7's engine; we all knew Dave's reputation for being jam-up on schedule; we all wanted to see him go through, and we felt sure he would make it.

"When we heard the train whistle for the station we broke and ran for the back door of the store, and out to the station. The track from the north was down hill. There was a strong wind from the south, and it was driving sleet and snow directly into the face of the oncoming train.

"The cattle were being driven south against the storm, and were now directly on the crossing about 200 yards north of the station. A crowd of people were standing on the platform, waiting to see the train come through. When the whistle sounded they noticed the cattle, so they all broke for cover at the south end of the depot. It was a good thing they did, for the train did not slack up, but plowed into the herd and sailed by the station. It seems cruel, but it couldn't be helped."



Replica of Rogers Engine Made by A. D. Slater, 12522 Cornado Ave., Cleveland, O.

How to Build a Model Diamond-Stack Engine

By ALFRED D. SLATER

BY following the plans and drawings printed on these pages almost anybody can make a model of one of the famous Rogers engines of the 70's—a model that he'll be proud to exhibit to anybody. Wherever the dimension (model size) is given, this dimension applies only to a scale of ⅝ inch equals one foot. Wherever dimensions are omitted, the correct size may be determined by scaling the drawings. Plate No. 1 shows:

A—Boiler braces (front)
B—Boiler braces (rear)
C—Expansion plates
D—Pilot
E—Headlight
F—Stack
G—Sandbox
H—Dome
I—Bell
J—Whistle
A′—Mud drum
B′—Connecting rod
C′—Side rod
D′—Engine frame
E′—Pony truck frame
F′—Front coupler
G′—Ornamental staff
H′—Number plate
I′—Hand-rail
J′—Firebox
KKK—Running-board brackets
L—Equalizer
M—Main springs
N—Truck spring
O—Truck spring hanger
P—Check valve
Q—Pump
R—Feed line
S—Shutoff valve
T—Cylinder
U—Steam chest
V—Guides
W—Yoke
X—Rocker arm
Y—Link
Z—Eccentric rod
K′—Bumper timber
L′—Sand pipe
M′—Valve stem
N′—Foot steps
O′—Smokebox
P′—Cylinder part of boiler
Q′—Brace securing rear of frames together
R′—Cab
S′—Delivery pipe
T′—Cab grab-irons
U′—Safety chains
V′—Bell rope

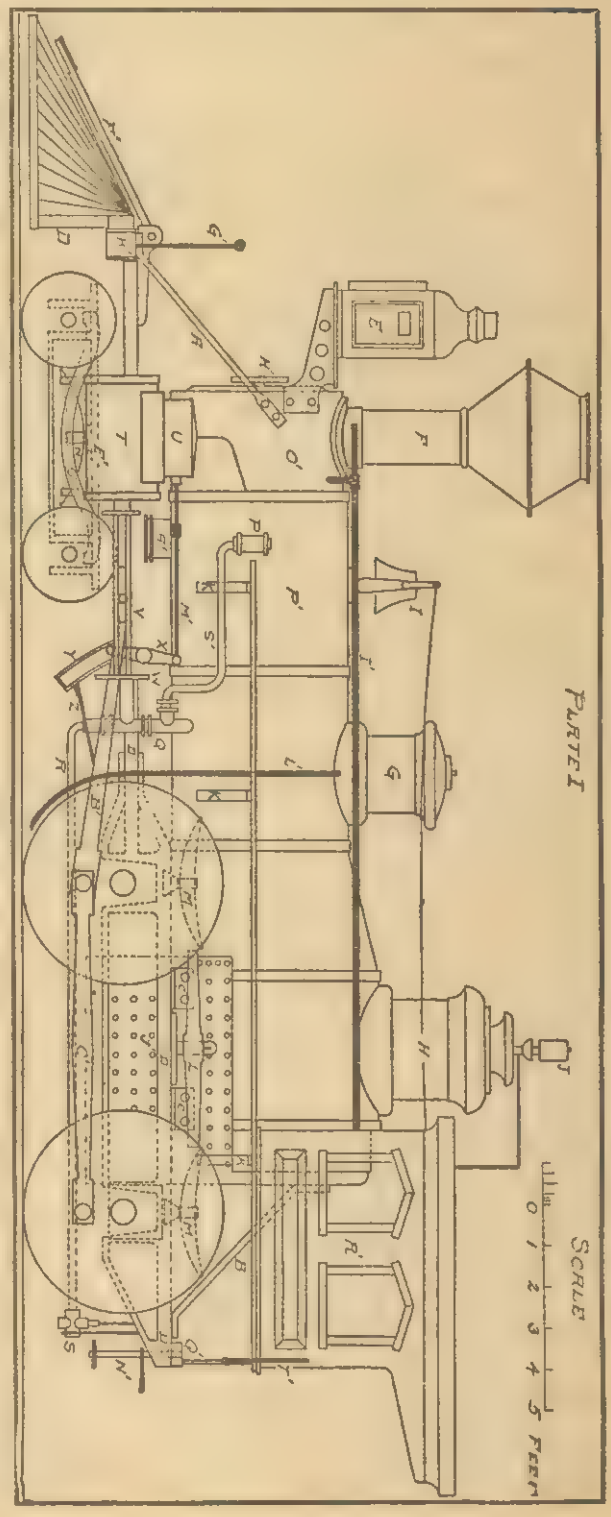
DRIVERS: The 3⅛ inch drivers are turned from a ¼ inch piece of white pine ply-wood to the dimensions shown in Fig. 1. Wheels are fastened to the axles (⅝ inch dowel pin) by means of a flanged brass bushing which slides over the axle and which is screwed to the inner wheel

face with four No. 1 wood screws through the flange. Spoke effects are produced by cutting out the material between the spokes with a fine scroll saw, and smoothing up the rough spokes with a fine tooth file.

TRUCK WHEELS and FRAMES: The 1½ inch diameter truck and tank wheels are turned from a solid piece of wood to the section and size indicated in Fig. 2. Quarter inch dowel pins are the correct size for the axles.

The engine frame (Fig. 3) is made from a solid piece of quarter-inch yellow pine ply-wood. Driving boxes are shown in Fig. 4. Pony truck frames (Fig. 5) are made from the same plywood, and braced as shown. The truck box is Fig. 6.

VALVE MOTION, ETC. (See Fig. 10.) The links are carved from a single piece of wood. The eccentric rods, made of No. 12 wire, are hooked into wire "eyes" inserted in the links and looped over a false axle just in front of the actual main axle. A No. 20 wire brad driven through the false axle prevents lateral displacement of the eccentric rods. The rocker shaft, placed on the main frame, has the link on one end and the valve stem on the other. No. 13 iron wire is the size of the valve stem



Eatmore candy boxes are the correct size for your locomotive cylinders. The saddle (Fig. 9) is made from a solid piece of wood shaped on the bottom of each end to conform to the cylinders and on the top of each end to take the square steam chests. In the rear of each cylinder is a wooden disk with lugs to which the front end of the guides are attached. The rear ends of the guides are attached to a yoke which in turn is fastened directly to the locomotive frame.

The main rods (Fig. 11) are fluted $\frac{1}{16}$ inch deep, while the connecting rods (Fig. 12) are flat-surfaced. Both rods have two $\frac{1}{8}$ inch wooden pins in each end representing the bolts that hold the straps in position, and one $\frac{1}{8}$ inch wooden pin directly over the center of the crank pin hole to represent an oil cup. Both the side and main rods are $\frac{3}{32}$ inch thick.

All springs are "dummy." The driving wheel springs and pony truck springs are made from strips of No. 25 B. & S. gage sheet zinc soldered as shown in Fig. 8 and fastened directly to the frames. The main spring hanger, or equalizer, being "dummy," is fastened to the side of the firebox. The pony truck spring hangers, also "dummy," are fastened to the truck frame.

BOILER: This is constructed of four heavy paper tubes, A, B, C and D shown in Fig. 13 (longitudinal section), a plain block of wood E and built-up block F. An end view of E and F is shown in Fig. 14. Tube A is $2\frac{3}{16}$ inches outside diameter and $8\frac{1}{2}$ inches long. It slips over a snug-fitting circular square-faced segment of F. Tube B slip fits over A, is $5\frac{1}{2}$ inches long and extends to within $1\frac{7}{16}$ inches from the end of A. This last mentioned distance represents the smokebox.

Tube C is $3\frac{1}{4}$ inches in diameter, $2\frac{1}{16}$ inches long and slips completely over the square-faced circular segment of F and over one-half the square-faced circular segment of E. E and F (and each of F's segments) are each $\frac{3}{8}$ inch thick.

To accomplish this fit of C over E and F a strip from the periphery (rim) of each end of C must be cut away. The strip removed from the front end (to execute the fit over F) is $\frac{3}{8}$ inch wide and must be directly opposite the $\frac{3}{16}$ inch wide strip removed from the rear end to provide for the fit over the rear boiler head E. The length of this cut "across the straight" (chord of the arc) is equal to the width of the firebox as measured on the boiler head.

Around the rear rim of C at G a row of No. 2 gimp tacks are driven $\frac{3}{16}$ inch apart. These represent the rivets fastening the boiler head to the boiler barrel. Tube D, the cone-shaped wagon top, is fashioned to fit squarely against B and C and slip fits over the beveled circular segment of F.

The total length of the boiler should be 12 inches and the height of the center line above the base of either E or F is $2\frac{3}{4}$ inches. The boiler jacket, which may be made of some thin, flexible cardboard — such as correspondence cards—fits over the exterior of B and D and over the exterior of C to within $\frac{1}{8}$ inch of the row of rivets G, and reaching down to the firebox plates on the side.

No. 2 gimp tacks are used for rivets at each end of the smokebox, and around the edges of the firebox. Common pins are used for stay bolts in the firebox sides. The boiler is held in position by the front boiler braces A, rear

boiler braces B, and by the expansion plates C (see Plate 1) which support the boiler directly on the frames. Boiler braces are fashioned from No. 8 copper wire. The front end of the smokebox, turned on a lathe, is somewhat convex.

CAB: This should be a unit completely detachable from the engine. It should have a curved roof covered with three strips of black oilcloth of equal width. The doors leading to the running board should be on hinges, while the rear side windows should slide in gutters. The side windows and the rear windows should have casings around them. However, the rear windows, (W'W', Fig. 19) should be fixed in position, as also the front side windows. U'U', Fig 19, are safety chains made of No. 8 copper wire suspended from the frame brace Q'.

Running boards are made from single pieces of wood bolted with No. 2 machine screws to three (on each side) boiler brackets. The brackets, made of No. 15 B. & S. copper, are spaced as shown (KKK, Plate 1) and are fastened to the boiler with three No. 1 wood screws.

FITTINGS: The lower part of the headlight consists of a box containing a reflector (turned on a lathe) and a watch crystal lens, while the upper part of the light is hand carved to shape. The bracket is made of No. 25 B. & S. zinc and screwed to the boiler with four No. 1 wood screws. (See Fig. 16.)

The stack, sandbox and dome are all lathe work. The bases are made to conform to the contour of the boiler in the following manner:

Before the block is put on the lathe a scroll saw cut is made clear through the block on a curve whose radius is the exterior diameter of the boiler and whose length is the diameter of the item to be made. Care must be taken that this saw cut is absolutely square to the block, otherwise the finished object will not rest on the boiler in a plumb position. Each of these appliances is screwed, from the under side, into its proper position. (Fig. 17, Plate 2) shows how the sandpipe is held in position.

The pilot or cowcatcher, a device which enriched the beauty of locomotives of former days, has a bottom triangular-shaped frame. At each end of its base is fastened an upright post supporting the crosspiece that bolts the whole pilot in place on the buffer-beam. From this crosspiece 19 equally spaced slats extend down to and are fastened into the above mentioned triangular frame. (See D, Plate 1 and Fig. 15.)

The bell bracket is shaped from three pieces of wood, the base, main frame and upper frame that the bell hangs from. (See Fig. 18.) The bell may be turned from wood, but for a 5/8 inch scale model, a bell such as comes in some canary bird seed boxes is exactly the correct size.

The whistle may be turned from a solid piece of wood or built up from two pieces of 1/8 inch dowel pin held together by a longitudinal pin.

PUMP: The feed pump (Q, Plate 1) is fashioned from a piece of 1/4 inch dowel pin. The flanges by which the various segments of the pump are fastened together may be represented by cutting out circular cardboard rings 3/8 inch in diameter and slipping them over the pump.

The check valve P is fashioned from a piece of 3/8 inch dowel pin and the

PLATE II

FIG. 1

FIG. 2

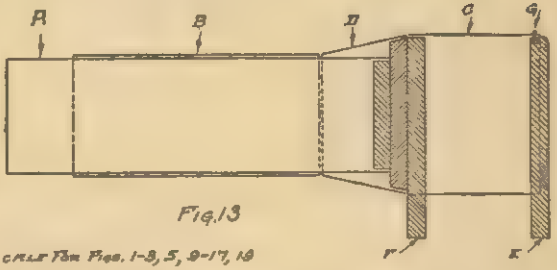
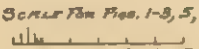


FIG. 13



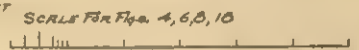


FIG. 3

FIG. 4 FIG. 6

FIG. 11

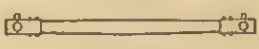


FIG. 12

FIG. 9

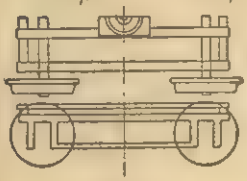


FIG. 5

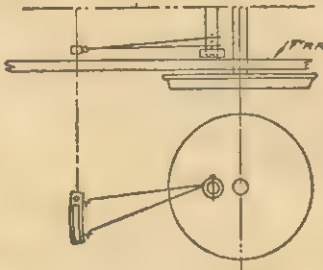


FIG. 10

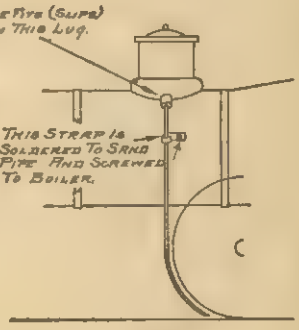


FIG. 17

FIG. 8

FIG. 18

FIG. 14

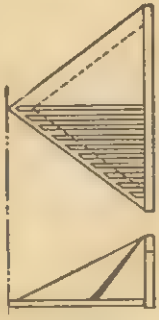


FIG. 15

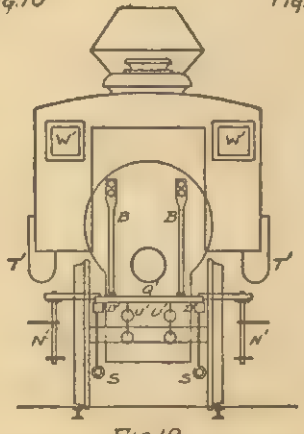


FIG. 19

FIG. 16

shutoff valve S made from a ¼ inch dowel pin. Small rubber hose, with a metal fastening on each end, serve as the tank connection.

The pump Q, feed line R, and the shutoff valve S are mounted rigidly on the frames. The check valve P is fastened permanently on the boiler. The delivery pipe S slip fits into both the check valve and pump and is fastened to the boiler in a manner similar to that of the sand pipe. Feed pipe R and delivery pipe S are made of No. 8 copper wire.

TANK or TENDER: The tank truck wheels, like the pony truck wheels shown in section at Fig. 2, are turned from white pine. The axle (¼ inch dowel) projects through the wheel $\frac{11}{16}$ inch in order to allow the truck frame to rest thereon.

The truck frame of the tank consists of two journal boxes held securely in position by a narrow strip of wood nailed to the bottom of the journal boxes. The two upper members of the frame are made of a stiff pliable cardboard, tacked and glued in position.

This method of support is merely "make believe" as the entire weight of the tank is transmitted through the bolster (Fig. 30) to the *lower* piece connecting the journal boxes. However, the effect appears realistic. The holes in the journal boxes for the axles are 7/16 inch in diameter. Each frame slips on to the stub end of the axles and is secured against lateral displacement by the removable yoke screwed to the bottom of the bolster unit. (See Fig. 30.)

Now we come to the bolster unit. Figs. 28, 29 and 30 show the end, top and side views respectively. The thin bottom piece is rigidly fastened to the heavy upper "beam" by a block placed in the center. The height of this block is equal to the height of the coil springs on each end. The springs, made of No. 12 soft brass wire, are only "dummy" and are held in position by small stubs. These stubs are wooden pins whose diameter is equal to that of the inside of the spring. They are "doweled" into the "beam" and the thin bottom piece and project therefrom about $\frac{3}{32}$ inch.

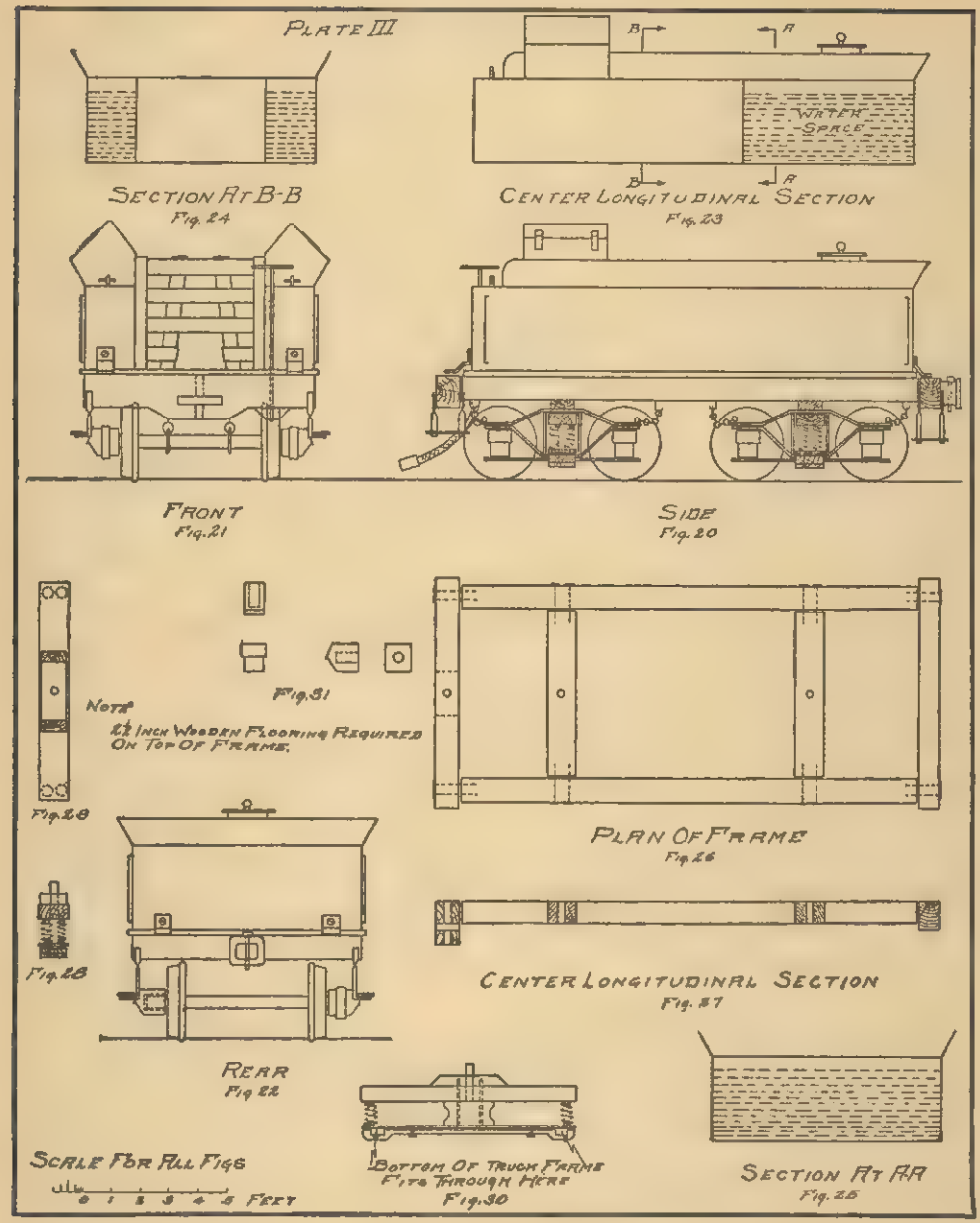
End, top and side views of the journal boxes are shown in Fig. 31. The lid effect is produced by gluing to the front top face a piece of thin, stiff cardboard slightly wider than the box itself.

The safety chains on the truck, made of No. 14 copper wire, consist of six links, the inside diameter of each link being three inches.

The frame of the tank consists of six pieces of white pine glued and fastened together by No. 20 flat head wire nails. The special shape of the front sill which accommodates the drawbar is clearly indicated in Figs. 20, 21 and 26. In the center of each beam, which rests on the bolster beam, is a 7/16 inch hole which accomodates the king-pin or swivel-pin in the top of the bolster beam. On the rear sill the back coupler is fastened. On top of the frame is a plank flooring.

The body of the tank is really a U-shaped box, the top and bottom of which is made of ½ inch white pine and the walls or sides of a strong pliable cardboard such as that used in the upper members of the truck frame. The inside of the U constitutes the coal bin while the water is on each side and the rear of it.

The flange around the top is one foot high and may be fastened to the top of the box by a row of No. 2 gimp tacks which give a good rivet effect.



Of course, a row of the same size rivets would then be used along the bottom.

An Eatmore candy box is the correct size for a water-intake opening. The coal gate is composed of four horizontal, two vertical (end pieces) and two inclined slats. Tool boxes are built right into the tank itself, for the body of the tank serves as sides to the boxes.

The steps consist of zinc straps with one end fastened to the sills and the other end bent and twisted to support the tread of the step. The water hose may be made to appear quite real by

using a piece of ordinary clothesline. Safety chains must be put on to connect with those on the engine. Thus every detail must be made realistic. It takes time and patience, but is worth the trouble.

These old engines, which were in their prime just at the dawn of the air-brake, had hand operated brakes. These, however, were usually placed on the rear tank truck only. For appearance a brake wheel may be placed at the front of the tank on the fireman's side, but the building of the brake rigging is really a chapter in itself and will not be described here. Grab-irons are made of No. 14 copper wire.

The body is held in place by four metal brackets (made of No. 25 zinc), one at each corner. In line with the water hose and on top of the tank on each side is a shutoff valve handle.

PAINTING: Use a high grade of good enamel; otherwise a good job of workmanship might easily be ruined. Use a glossy black throughout except on the trimmed items listed below:

Brass (gold enamel): ornamental staff, edges of headlight door, edges of head reflector rim, bell, lid on sandbox, whistle, hand-rail, jacket bands, edge running board, panel under cab windows, check valve, delivery pipe, feed pipe, sand pipe, and steam chest oil pipe.

Silver: front coupler, bottom of pilot, front cylinder heads, crosshead, water-intake, flute in connecting rod, cab steps, grab-irons, lids on boxes, wheel faces, front number plate, and springs.

Green: window casings, coal gate and tank tool boxes.

Red: cab windows and cab doors.

Model Railroading

MY model system (O gage) represents the L.M.S. of England. I have 24 cars, both freight and passenger, and 3 locomotives: a 4-4-0, a 4-6-0 (Royal Scot), and an 0-4-0 that I built myself. This was my first attempt in the model locomotive field, although I had previously made several cars. I am also building a ¾ in. scale model of a Pacific type, but am attending university and have little time to work on it now. Would be glad to show my system to anybody whenever I am at home (1035 E. Valley Rd., Santa Barbara, Calif.).

I have about 200 ft. of track and 12 switches, with more under construction. Most of it is brass rail laid on wooden ties. Incidentally, I have 4 remote control switches—2 Lionel and 2 American Flyer—that I would like to sell cheap, as they are of too sharp radius for the engines I have now.—Samuel Freeman, Box 696, Stanford University, Palo Alto, Calif.

* * *

Some time ago I built a ⅜ in. scale miniature railway, including a 4-4-2 passenger engine, a 2-6-6-0 type Mallet, a 2-8-0 freight hog and a 6-wheel switcher, all made to scale, electrically operated. Cost was low, as most of the parts were built of easily obtainable scrap. Instead of buying standard track I devised a method of track-building which is simple, realistic and cheap, costing about 3c a foot. Switches are easy to construct with this kind of track. The method is satisfactory for electric-powered engines, as it eliminates both third rail and overhead trolley wire.

The Atlantic type engine has no difficulty in handling 5 or 6 cars and maintaining schedule. The Consolidation can handle 20 freight cars, while the Mallet has tractive force enough to tip over the flat cars at sharp curves. With the Consolidation as a "helper," the Mallet handled 47 cars on a current drain of 16 amperes at 12 volts. The 2 engines use about 7 amperes when they "get them rolling." All 4 locomotives have cab lights and headlights.

Here are dimensions for the Atlantic type: Gage 2¼ in., height to stack 6¼ in., length 28 in. over all, diameter of drivers 2¾ in., diameter of engine truck wheels 1⅛ in., diameter of boiler 2⅞ in., width 4 in., steam pressure 6 to 12 volts.

At one time I had about 50 freight cars

but now have only a few; also 5 passenger cars, including mail and baggage. The length of each piece of passenger equipment ranges from 20 to 30 inches. All 5 passenger cars are electrically lighted, even with tail lights and markers. My block signals were easy to construct; each one complete with lights cost less than 50c for material, and they work satisfactorily.

The entire system operates on either a 6 or 12 volt battery, which represents the costliest construction item. On 6 volts, however, neither maximum "tonnage" nor "mileage" can be handled. Much of the work of building rolling stock was done on the kitchen table in the winter evenings, so no great amount of equipment was needed. I will gladly furnish details, mechanical or electrical; but anyone who writes should send a self-addressed stamped envelope; write plainly, and do not ask anything that would take too much of my time to answer.—Geo. V. Hartman, 2331 Park Blvd., Oakland, Calif.

* * *

I am building a miniature railway. So far, my equipment consists of 5 freight and 2 passenger cars, with one more under construction. The freight equipment includes a caboose, a hopper car, a flat and 2 box cars, all made from prints in your magazine. The passenger stock, also taken from RAILROAD STORIES, consists of a passenger coach, combination coach and a baggage car.

All of my work was done with a limited supply of tools, chiefly a plane, a knife and sandpaper. Boxwood, glue, pins and cardboard were used in construction. The total cost so far has been about $1.50. I should like to hear from other model makers and exchange information.—Wm. J. Yost, 2926 23rd Ave., Oakland, Calif.

* * *

I'd like to complete my collection of O gage cars that Ives built up to several years ago. I want 2-door, 8-wheeled yellow baggage Car No. 31; also some old Ives box cars, the kind no longer made. Can any reader help me?—H. J. Heaney, 2023 N. Main St., Houston, Texas.

* * *

Our club (which is seeking new members) has a model railway in ¼ in. scale. One division is completed; we are working on another. Rolling stock consists of a Pennsy P70 coach, 2 P54 coaches, a milk car, a box car, a reefer, 2 flats, one gondola, a gas-electric with trailer, and one rebuilt locomotive. Work is progressing on a Pennsy E6, to be followed by a K4. We aim to build and operate a complete system.—Oliver N. Carey, secretary, Brooklyn Railroad Club, 338 74th St., Brooklyn, N. Y.

* * *

Would like to dispose of my O gage model railroad; original cost $80. Any suggestions?—Geo. Kusner, 4524 Lawndale Ave., Lyons, Ill.

* * *

I want to buy O gage equipment.—Chas. Courtney, 647 Shady Drive East, Mt. Lebanon, Pittsburgh, Pa.

* * *

Will some model builders in this district please write?—George Meades, 315 Leslie Ave., Oshawa, Ont., Canada.

* * *

If some one has driving wheels of passenger or freight engine models that aren't needed, please send them to me. I will pay postage. Dad will build a model for me.—Max Smith, (age 6), Potter, Ky.

* * *

Would like to correspond with model fans.—H. R. Cowgill, 23 S. Henry St., Delaware, O.

* * *

Please send information on building driving wheels, steam-operated cylinders, pony wheels, pilot trucks, couplers, etc., for a model engine about 3 ft. long.—George West, 825 Parker St., Scranton, Pa.

* * *

I live at Pretoria, South Africa, but was awarded a scholarship for 3 years' study at the Royal Academy of Music in London, so I am now in England. In spare time I am making a model of the C. N. R. "International Ltd." Would like to correspond with model fans.—Jack Aronowitz, c/o 1, Ronald Close, Eden Park, Beckenham, Kent, England.

* * *

I am disposing of my model road, O gage track, A. F. engine No. 1218, etc. Is anyone interested?—Jack Tippen, 17 S. 18th Ave., Maywood, Ill.

* * *

I plan to build a model of a Pennsy M-1 mountain passenger type. Where can I get specifications, drawings, photos, data? I have a fair knowledge of locomotives, but would like information on building frame, spring suspension, valve gear and brake gear.—Wm. A. Yarger, Fredericktown, O.

* * *

Would like to hear from model railroaders all over the world, especially those in Philadelphia, Pa. I am constructing models of Pennsy H-9 class, 2-8-0, and Reading A-5 class, 0-4-0, camelback.—Edward A. Hiland, (age 18), 523 Royden St., Camden, N. J.

Famous ENGINEERS
MATT H. SHAY
WORLD'S LARGEST ENGINE BORE HIS NAME.
BORN IN WATKINS, N.Y., IN 1843. HIRED OUT AS A FIREMAN ON THE ERIE R.R. IN 1860. FIVE YEARS LATER BECAME ENGINEER.
ERIE
SHAY WAS A CAREFUL WORKER, AND SO STRICT A CHURCH MEMBER THAT HE NEVER WORKED SUNDAYS. FOR THIS REASON HE GAVE UP A FAST PASSENGER TRAIN FOR A COAL RUN. LATER HE RETURNED TO THE PASSENGER RUN, AFTER THE ERIE HAD ASSURED HIM ANOTHER MAN WOULD HANDLE THE TRAIN ON SUNDAYS.
ERIE
MATT SHAY RECEIVED MANY HONORS. THE ERIE GAVE HIS NAME TO ITS FAMOUS TRIPLEX MALLET ENGINE, THEN THE LARGEST IN THE WORLD. THE BROTHERHOOD OF LOCOMOTIVE ENGINEERS MADE HIM SECRETARY-TREASURER OF ITS INSURANCE DIVISION.
HE DIED IN CLEVELAND JULY 7, 1915.

Next Month—Frank McManamy (Pere Marquette)

Reefers

A Great Industrial Octopus, the Refrigerator King of the Nineties Stretched Out to Crush the Midland Central

Complete Novelette

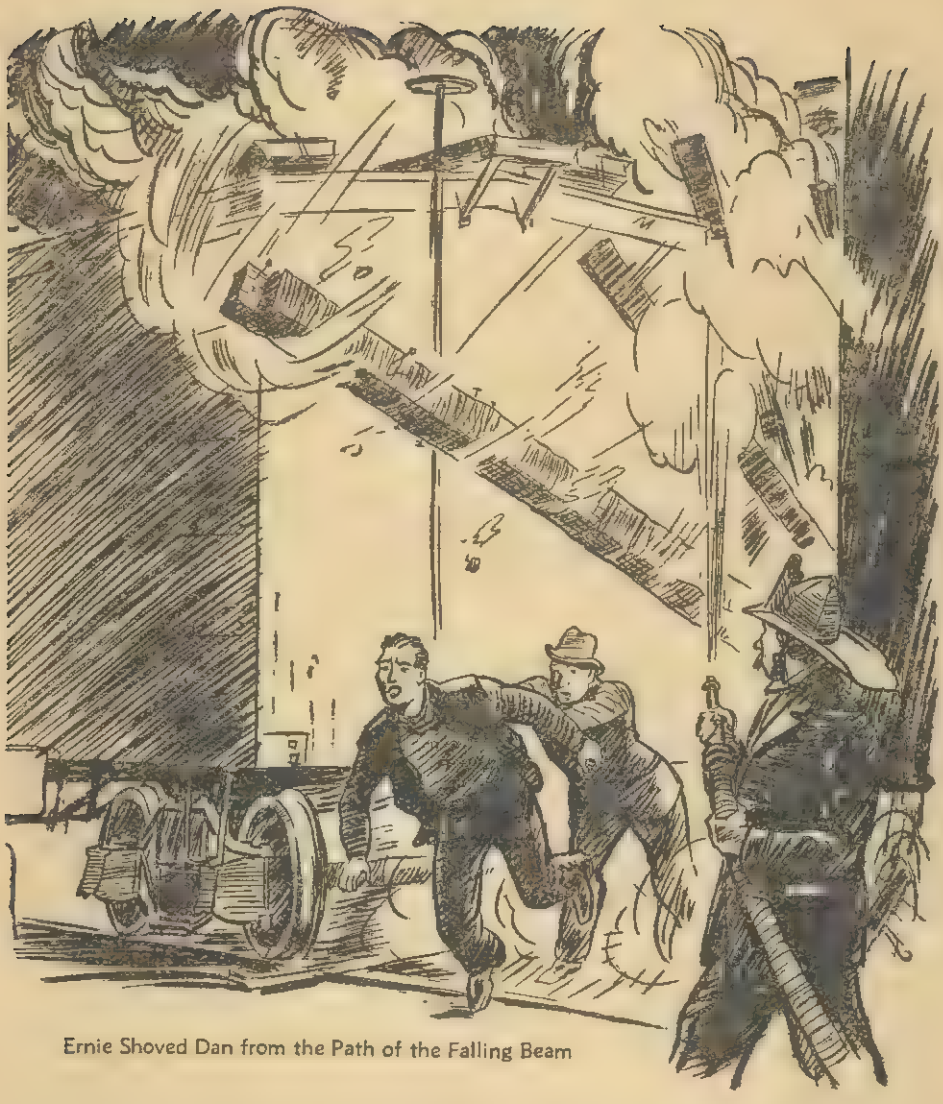
By JOHN A. THOMPSON
Author of "Christmas Mail," "The Gold Rush Special," etc.

AN engine whistle screamed its shrill blast at an empty grade crossing as No. 6, the Midland Central's nightly string of reefers,* tore northward with her load of perishable freight for Chicago city markets. Shimmering ribbons of steel reflected the glare of her oil-burning headlight. It was in the early nineties, before electricity was used, and in the days of diamond-stack locomotives.

A belated farmer held his prancing horse in check while the iron monster roared by. As the red marker lights that indicated the end of the train came even with the crossing he waved a friendly greeting from his buggy to the lone figure on the rear caboose platform.

Dan Carter, rear end brakeman, waved in return. Dan, tall and slender, with lean, hard muscles, was making his first trip on No. 6. The Midland Central was now *his* road, and he a part of it. This thought thrilled him. Dan felt expansive. Hence his cheery acknowledgment of the farmer's salute.

*Reefers: Refrigerator cars.



Ernie Shoved Dan from the Path of the Falling Beam

Virgil Swain, conductor on the red ball freight, came out on the platform and joined the brakeman. A sense of impending danger made the red-faced little veteran uneasy. Yet there was nothing tangible on which he could put his finger. Six was bowling along "on the advertised," right on time.

Dan noticed the con's restlessness and asked: "Anything wrong?"

Swain shook his head. As if to change the subject he said abruptly: "We pick up a helper engine at Hammond. The country don't look it, but there's quite a grade up from the bottoms."

Dan nodded. Swain went inside again. A little later the young brakeman heard him climb into the cupola. Six thundered on. Dan moved over to the inside rail and bent far out, looking forward to catch a glimpse of sparks shooting from the diamond-shaped stack, and perhaps the red glow from the firebox door.

Suddenly his grip froze on the hand-

rail. As the train swung around a curve his eyes caught the gleam of not one headlight but *two!*

In that instant two locomotive whistles screeched a simultaneous warning. Dan felt the racking jar of straight air hastily applied as the engineer up ahead fought to bring his train to a stop. But it was too late. With a terrific crash the two engines met!

Dan was thrown to the floor by the jar. He heard Swain scream from the cupola.

And out of the corner of his eye he caught a swift vision of a blurred figure that made a wild leap from the roof of one of the reefers perhaps fifteen car lengths from the head of the train. Swain's cry galvanized the brakeman into action: "Grab a lantern, Carter!"

A moment later Dan was running with the conductor past a jumbled pile of splintered refrigerator cars toward the front of the train.

The iron hog lay on her side, hissing live steam from a hundred strained and broken joints. Both members of the engine crew were dead. Yellow flames licked hungrily over the cab. Dan's head swam; he felt dizzy. A wreck on his first run! The brakeman had read about other wrecks, but this was his first experience. He had not known the real thing would be so unnerving.

Again the veteran's hoarse command recalled him to his senses.

"Go on back and flag the hind end." Swain's voice seemed far away. "The wrecker'll be comin' up from Marlow shortly."

Still shaken inwardly by the narrow escape, Dan stumbled past the piled-up reefers. The cool night breeze fanned his burning cheeks. Entering the caboose, he got a few torpedoes and red fusees from the locker.

Then, for the first time in years, Dan Carter knelt down beside the locker and prayed. He prayed for those men up front who had gone to glory facing duty to the last. Words tumbled from his mouth in an incoherent jumble. They scarcely made sense. But he was sure God would understand.

Somehow he felt better when he rose to his feet again. His young blue eyes were clear as he squared his shoulders to the night and walked off down the track to take up his lonely post, and wait.

SWAIN was surveying the wreck. The train that had crashed into No. 6 was a heavy coal drag. The weight of the loaded cars had made a quick stop impossible. A few of the coal cars had been derailed by the impact, but the engine remained upright.

Swain knew the train, Extra *27*. His orders called for 6 to pull into the passing track at Hammond less than half a mile away and let her by there. "What," he wondered, "was she doing down here by Foley's Bend?"

He took a step toward a group of excited men hurrying in his direction.

"Regan," he snapped to *27*'s thick-set hogger, "what's the idea?"

Engineer Regan was plainly worried. "Gosh, Swain," he blurted out, "we thought you was in the siding at Hammond. I'll swear there was a jack there with your number up." He turned to his fireman. "Ain't that so, Curry? You seen it."

"The danged helper engine!" muttered Swain. "Some day they'll have a general order forbidding helper engines to hang train numbers on the headlight until they're actually coupled onto the train."

"Maybe," growled Regan. "Anyhow, I'm in the clear."

Swain was about to make some retort when a bedraggled figure limped toward the group. It was Ernie Sargent, the head end brakeman on No. 6.

"You're a fine bunch of pals," Ernie complained. "I might of been killed back there an' none of you come to look for me."

The conductor looked at Ernie. Like Dan, the head shack was tall, but there was something queer in his dark eyes.

"If you was in the cab," said Swain, "tell us what happened before you jumped."

"In the cab hell! I was back by the middle of the train. Thought I seen some 'boes, an' figured I'd investigate."

The conductor was unconvinced. "Kind of handy you happened to go back when you did, wasn't it?" he went on. "You knew we was pulling into Hammond directly."

Ernie flushed angrily. "What's the idea of the cross-examination? You a self-appointed kangaroo court, or somethin'?"

"No," said Swain quietly, "I ain't." Then he turned on his heels and walked away.

Then engineer of Extra 27 faced Ernie. "Gosh, fella, you was lucky to be where you was instead of ridin' that cab!"

"Guess I was at that." Ernie jerked a thumb at Swain's broad-shouldered back. "What's the matter with that old buzzard anyhow?"

"Search me," replied the hogger. "Virg always was a funny cuss. Never can tell what's in back of that guy's mind."

Swain went on toward the rear of his wrecked train to see how his new brakeman was getting on. A stickler for rules, the veteran always insisted that his flag go back the proper distance, but he had no fault to find with Dan Carter. The latter was walking back and forth along the cinder path, right where he should have been.

"How are you making it, kid?"

Dan turned to greet the conductor. "All right. What happened?"

Swain told him.

"Just an accident then?" Dan asked.

"It could have been." Swain edged closer and lowered his voice. "Look here, Carter," he said abruptly. "The Midland Central's in a jam."

Dan stared at the con, amazed at his sudden vehemence. "I heard the road's been having trouble," he responded.

"Trouble?" snorted the con. "That ain't the half of it. It's the beef trust and them new-fangled refrigerator cars that's the cause."

"Reefers?" Dan was puzzled.

"Yeah, reefers!" the skipper explained. "The M. C. is one of the few roads that provides its own refrigerator cars for its shippers."

STRANGE as it may sound today, the statement made by Conductor Swain was true. Not many roads in the early nineties had their own reefers for the shipment of their customers' perishable freight. Most of the reefers being hauled across the country at that time were privately owned by a Chicago meat packer who held a virtual monopoly on that method of produce transportation.

This man was the dominant factor in the beef and pork industry. He himself was a big shipper, a powerful railroad customer. The chief element of his strangle-hold on the railroads was his possession of private refrigerator cars in which he shipped his own products.

Once he had gained the whip hand and tasted the profits of car mileage, the pork packer expanded. Without admitting any of the responsibilities of a common carrier, he undertook the work of a common carrier by offering his private cars for the transportation of products owned by other people.

Thus the Chicago meat baron became a carrier of Tennessee tomatoes, Michigan grapes, Georgia peaches and California oranges. No only that, but he fixed his own rates for the use of his private cars, and he tried to see to it by every means at his command that no other cars were available!

As a result of this one man's reach for "wealth beyond the dreams of avarice," the American railroads were forced into a bitter struggle with him.

Swain in his own language did his best to impart something of all this to Dan Carter.

"Lemme tell you what'll happen," he

was saying. "Rates on reefer shipments'll go so high it'll keep the produce men out of distant markets or force 'em to the wall. Shipping'll take a slump, trains'll be cut off the schedule, and a lot of rails will be laid off."

"But," protested Dan, "the Midland Central has its own reefers."

Evidently that was just the question Swain had been waiting for.

"Sure!" The conductor's eyes danced. "We're the fly in the butcher's ointment. He can't get control of us, and so long as we run independent he don't dare put the pressure too high on the people using his private reefers."

A startling thought flashed into Dan's head. "Mr. Swain," he stammered, "you—you don't think this wreck could have been part of a game to break the Midland?"

The older man smiled quizzically. "Son, I ain't making statements I can't prove. But it might of been. I wouldn't put it past him."

Dan clenched his fists. It sounded incredible. But Dan was new on the Midland Central. He had yet to learn to what extent the road's enemies were willing to go to gain their end.

A whistle sounded in the distance. The wrecker was coming.

The Girl in Blue

DAN CARTER'S first wreck inquiry was a harrowing experience. It took place in Superintendent Matt Kennedy's private, green-carpeted office at Marlow. Kennedy was a thick-chested individual with thinning gray hair about his temples and bulldog determination stamped in his square jaws. His steel-gray eyes seemed to Dan to bore straight through one.

Most of those present took the investigation coolly enough. But to the green brakeman every question brought back an all too vivid memory of an overturned hog and a flame-drenched cab. He was glad when the proceedings were over.

Throughout the day his mind kept reverting to the wreck and to what Swain had told him about the ruthless methods of a certain meat king. He was still thinking about it late in the afternoon. No. 6 had a string of five reefers to be switched from the northbound tracks across the main line to the ice house for re-icing. Ernie Sargent made the cut, then rode the cars down, clinging to a grab rail.

As Dan hurried forward to throw the main line switch, he glanced up suddenly. A slim-waisted figure in a blue sailor dress was climbing between two cars on a neighboring track. Dan hardly expected to see a girl in the freight yard, certainly not one so pretty as this creature.

As he watched a minor tragedy occurred. In attempting to step down from the car the girl caught her long skirt in some projection and tripped, exposing a pair of neat ankles and the lower part of her legs. With a cry of dismay she half jumped, half fell, to the ground.

Dan made a motion toward her, but though the girl stumbled she instantly regained her feet and blushing furiously, darted around the car and out of sight.

"Hey!" yelled Ernie Sargent.

Startled, Dan leaped for the switch. He was too late. The first two cars of the cut had already bounced over the half-open points, and onto the ground.

"Chump!" Dan muttered to himself. He whirled around. Ernie was laughing at him.

"Kid, you sure spread 'em over the scenery," he said, and whistled a stanza of the popular air, "Tara-ra-ra, boom de-ay."

"Why didn't you hold them back?" Dan asked angrily. It was a weak alibi. The blame was rightly his, and he knew it.

"Couldn't," grinned Ernie.

"Damn that girl!" thought Carter. "What was she doing in the yard anyhow?" Then he remarked aloud: "Did you see that girl climbing between those cars?"

"Yeah," said Ernie. "She'll break her neck yet, foolin' around."

Dan was mildly surprised. "Gosh!" he exclaimed. "Did you ever see her before?"

"Sure," was the answer. "That's my sister, Beth. Guess the kid was taking a short cut home."

Just then Conductor Swain hustled over on the run, fire blazing in his eyes. Before Dan could open his mouth the peppery little skipper lit into him.

"That was as deliberate a spill as I ever seen, Carter!" he stormed. "And I seen a lot of 'em around here lately. I thought you was working *for* the Midland."

The last sentence was delivered with bitter sarcasm. Dan colored deeply. The muscles around his mouth twitched. But he curbed the hot retort that was on his lips.

"Aw, don't mind the old coot," Ernie whispered. "We all make mistakes."

Dan felt grateful to the brother brakeman for this remark. Maybe Ernie wasn't such a bad fellow after all, when you got to know him. Besides he had a peach of a sister.

ONE night Ernie invited Dan to step out with him and take in the sights of Marlow. Dan accepted eagerly, hoping the visit would include a trip to the Sargent home and a proper introduction to a certain young lady.

Ernie, however, had different plans. "Where to first?" he asked gaily.

"Any place suits me," said Dan whereupon Ernie suggested Mike Reilly's pool room. Dan had never been there but he knew the place was reputed to be the toughest dive in Marlow. With a feeling of misgiving he nodded assent.

Reaching the gravelled walk of the passenger depot, Ernie hailed a waiting cab.

"Step in, kid," he said, motioning to the rickety barouche. "We'll make a night of it." He gave the driver directions.

"Yas suh, cap'n. I knows de place," grinned the Negro, flicking his whip over the exposed rib-work of his nag.

It wasn't far to the pool room. They might just as well have walked, Dan thought. Ernie handed the cab driver a twenty-dollar bill and the colored man's eyes grew round as saucers.

"Mah Lawd!" he exclaimed. "Ah can't change no sech bill as dat."

"Here, I've got some change," Dan volunteered, and he paid the fare.

Just inside the doorway Ernie paused to buy a handful of expensive cigars.

"Have a smoke," he said easily. "I'll introduce you to some of the boys in a minute."

"Gosh!" stammered Dan, shocked at the way his companion was spending money. "I—I can't travel with you. And hold my end up, I mean. It takes all I earn to pay my board and laundry, and put a little aside for a rainy day."

"Forget it," said Ernie grandly. "My party tonight. You'll be havin' plenty mazuma yourself one of these days . . . if you use your head."

Dan wondered what he meant, and glanced uneasily about the ill-lighted, evil-smelling hall filled with tobacco smoke.

Gambling was going on at tables at the far end. The click of pool balls as ivory kissed ivory, the rasp of a cue being chalked, the noisy riffling of a poker deck cut in on the babble of voices that made of the place a mild bedlam.

Dan thought he recognized many of the faces as those of railroaders on the Midland Central. He had seen some of them, he was sure, around the Marlow yards.

"Hi, Pete! Rasnik! Johnny! Come here and meet a regular guy!" called out Ernie.

Instantly Dan found himself surrounded by a hard-looking group of roistering, half-drunk men who eyed him questioningly.

"The boss ought to know about this fella," Ernie announced, then lowered his voice to a confidential note. "The kid's due for a slice of easy dough from Chi." He slapped Dan on the back. "Ain't you, pal?"

"I—I don't get you," said Dan.

Ernie laughed raucously. "Modest, ain't he?" he asked, addressing the group. "Boys, meet the lad that spilled them reefers over the northbound main."

Some of the men smirked at this. Carter felt hot blood rushing to his temples. He was beginning to understand now how the land lay.

"That was an accident," he protested heatedly.

"Sure. Ain't they all?" Ernie slipped Dan a broad wink.

"Aw, quit stallin'," growled the man Ernie had called Rasnik, a huge, coarse-featured individual. "Yuh're with frien's. How much do yuh want for the job?"

"I think you're kidding me," said Dan coldly, "and I'm not at all interested."

Resisting a strong desire to deliver a smashing blow at Rasnik's jaw, he whirled around in a fury and strode out of the hall.

The night air cooled Dan's temper as he walked home to his boarding house. He was mad clear through. The Midland Central's fight had suddenly taken on a personal aspect. It was his fight too now. He burned up anew every time he thought of the way the thugs at Mike Reilly's had calmly taken it for granted that he was one of their ilk, cheap, dishonest, crooked.

Crossing the freight yard on his way home, Dan encountered Swain. The old con would have walked on with a curt nod, but Dan stopped him, told him everything that had happened and of his intention to see the super the following morning.

Swain was noncommittal. Yet the minute Dan had left, the freight conductor's eyes lighted up. He stepped into the ice-house and called "Bull" Kennedy on the phone at his home.

"This is Virg," he said. Swain had known the super since the latter had been an engine driver on the Marlow Division. He related Dan's story.

"Great!" rumbled Kennedy's deep voice over the phone. "I'll be glad to see him."

AS Dan reached the door of the general office building next morning it suddenly opened and he almost collided with Beth Sargent. The brakeman flushed with surprise. Miss Sargent seemed even more beautiful at close range than when he had first seen her. He noticed now that her eyes were dark, like her brother's, and her features were finely chiseled, also like his, but the girl did not have Ernie's weak chin. Hers, if anything, was pert.

Miss Sargent evidently recognized Dan as he apologized for nearly running into her.

"I—I'm awfully sorry about those reefers being ditched the other day," she said. "It was my fault. I had no business down in the yard."

Dan insisted the blame was his.

"Anyhow," she went on in a low musical voice, "I want to make amends. You're Dan Carter, aren't you?"

Dan admitted he was.

"Ernie's talked a lot about you. He says you're new in town and don't know many people yet. Maybe some night, if you care to, he'll bring you up to the house and I'll introduce you to some of the young people." She paused a moment, then added archly: "And to some really nice girls who don't go scrambling over box cars in freight yards."

Dan felt the color rush into his cheeks again. "Thank you," he said, "I'd be glad to come."

The words were out of his mouth before he fully realized he had uttered

them. A moment later the girl was gone and he was inside the general office building. He walked straight ahead down the long wooden corridor—*and out the back entrance.*

He wanted time to think. Somehow the fire that burned in him to denounce the enemies of the Midland Central had suddenly died down. He wasn't quite sure of himself since he had spoken to Beth. She seemed so clean-cut and square as a die.

Though Dan had never been much of a ladies' man, Beth Sargent's presence did strange things to him. If he wasn't exactly in love with her already, he had all the symptoms.

He couldn't go into Kennedy's office now and accuse Beth's brother bluntly of being in league with those working against the M. C. So he sat on the edge of a loading platform and watched a noisy four-wheel goat bunting cars around like a mother hen hunting a lost chick. After all, he concluded finally, he had no real evidence against Ernie and those fellows in the pool hall. It would simply be a case of his word against theirs, so he decided not to see the super. At least, not until something further developed.

As he got up to go someone tapped his shoulder. He turned around to face a clerk from the office building.

"You Carter?" asked the man. "Dan Carter?"

Dan nodded. "That's me."

"Super wants to see you."

Under-Cover Man

TWO men were standing by Mr. Kennedy's desk when Dan entered. One of them, flashily dressed and with an air of self-importance, Dan recognized as Frank Bekin, the day yardmaster. The other man held a sheaf of papers in his hand. Dan did not know him. Plainly a conference of importance was in progress.

"Go ahead," snapped Kennedy to the man with the papers. "You are from the freight department. What else have you dug up?"

"Here's another case," was the response. "Fellow named Ellis bought a car of tomatoes in Gibson, Tennessee. Distance to Chicago 522 miles. Shipping by meat-packer-controlled road in packer's private reefers, icing charges were $73.92 and the freight itself only $111.57. Shipping those tomatoes the same distance on our road would have cost about $15 for icing—about one-fifth as much as he was forced to pay the pork butcher!"

"Phew!" Bull Kennedy whistled through his teeth. He was learning things about the business end of railroading. "Many more of those, Hacker?"

"Plenty. Names, dates, distances and comparative charges."

"With a sweet thing like that, no wonder the meat trust wants control of the Midland," grunted Kennedy. "That's rank banditry!"

"I believe, Mr. Kennedy," put in Bekin, "that those really exorbitant rates apply chiefly to the small shippers. I think the big fellows get a—er—rebate."

"That doesn't make it any better," the super retorted. "It makes it worse. The size of a man's business shouldn't indicate the amount of fairness he's entitled to." Suddenly he seemed to be aware of Dan's presence in the room for the first time, though he himself had ordered the young brakeman to come in a few minutes earlier. He waved at Dan. "Carter here, a new brakeman in freight service, may have something interesting to tell us."

The super squared around in his chair to face the newcomer, and went right to the point.

"Mr. Swain said you wanted to see me, and for what purpose," he explained.

"I sent for you now while Mr. Hacker and Mr. Bekin were here so we can all listen to what you have to say."

Dan stared unhappily at the green carpet under his feet. Inwardly he cursed Swain as a meddling old fool. Now he *was* in a jam.

"Speak up," prompted Kennedy.

"I guess I went off half-cocked, Mr. Kennedy," Dan blurted out. "I haven't any real evidence against anybody." He noticed Bekin eyeing him shrewdly. "Just suspicions. I'd rather wait until I was sure before I said anything definite."

As he had often done before where the judgment of men was concerned Kennedy was playing a hunch. He liked Dan's appearance, his physique, his clear blue eyes.

"I know how you feel, Carter," he said encouragingly. "Best be certain you are right before making serious accusations." He glanced at the other men in the room and his eyes returned to Dan.

"Keep this under your hat. From the minute you leave this room you are on special detail. Under-cover man at my orders. Go back to work now and see what you can find out."

"Yes, sir."

Dan's mind was in a whirl. Ordinarily he would have been proud of the appointment. As it was, the new trust lay like a leaden weight on his heart.

"I'm leaving the details up to you," Kennedy was saying. "But remember I'm counting on you to come back, with both barrels loaded."

"Yes, sir." Dan tried to smile, but the effort was difficult.

HARDLY knowing which way to turn first, Dan sought Swain's advice. The little red-faced conductor listened to his story with keen interest. When he finished, Swain said:

"There's bound to be an embargo on the Marlow yards mighty soon, the way things is going. You know what that means. No cars moving. No freight handled out of Marlow until the garden gets cleaned up. Only through stuff running. And there ain't nothing worse could happen to this division right now with the local produce shipping season approaching the peak."

"You think—"

"Son, there's lots of ways to gum up a busy garden without it looking like anyone's fault, intentional. If I was you, just for instance, I'd get transferred to yard service and keep my eyes and ears open."

"Could I do that?"

"Dan, let me tell you something. With Bull Kennedy behind you, you can do damn near anything."

And so Dan Carter was transferred to yard service. He was quick to grasp yard routine and the work fascinated him. True, the hours were long and he was kept busy from morning till night. But making trains up, shunting, shoving, pushing and hauling cars back and forth over the limited network of tracks in the Marlow yard was like working a jigsaw puzzle. Dan felt good when the pieces fitted together properly, and another drag was ready to roll.

He liked the friendly grunt of the little switch goats' exhausts. Soon he began to see orderly movement in what at first had seemed chaos and confusion. Even sooner he noticed that many of the yard men were loafing on the job, as if possessed of two speeds only, slow and stop. They never hurried.

Manual signs traveled at a snail's pace between brakemen and engineers. Cars were spotted on the wrong track with systematic frequency. Pulling out the light draft drawbars took on all the aspects of a game, a costly game for the Midland Central. Every day saw more cars marked for the South Marlow cripple yard. Most of these were M. C. reefers.

Whatever Dan thought about these incidents he said nothing. Daily he was noting one instance after another of rank inefficiency. And this time he was mak-

ing sure of his facts. Each case he listed and identified by date, time, car and track numbers, with the name or names of men involved. He was astonished how widespread the conspiracy against the Midland Central had become.

Yet as his case book grew, he observed with relief that Ernie Sargent wasn't involved in any of the yard defections. Ernie still rode the head end of No. 6.

Yardmaster Bekin seemed unable to remedy conditions. The tangle had enmeshed him in a web of helplessness. It wasn't as if Bekin didn't know what was going on. He did. And he was forever out in the garden exhorting, cajoling, threatening, cursing his men into greater speed and more careful work. His words had little effect. The moment his back was turned bungling continued.

Had Bekin been able to put his finger on one man or one crew as the focal point of trouble he could have fired the worst offenders. But the inefficiency was too general. The Y.M. could not well afford to sack virtually his whole force, with shipping booming as it was just then. Time and again he explained this when he was called into the superintendent's office.

Whether the alibi was satisfactory or not, Kennedy accepted it. Dan, however, had his own opinion of Frank Bekin. He disliked the sleek-moustached yardmaster who dressed like a tailor's dummy. Perhaps that was because he had learned Bekin was a frequent visitor to Beth Sargent's house.

THE Marlow garden was jammed, badly. Bekin sought out the superintendent early in the morning. He had with him long lists of car numbers and a bundle of train sheets.

"I told you we were trying to do too much business for the yard capacity, Kennedy," he began. "The situation is completely out of control."

The super's face tightened.

"Nothing to do but declare a forty-eight hour embargo," went on Bekin. "Maybe I'll need seventy-two." He made a deprecating gesture. "If you had done it in the beginning as I suggested—"

"Embargo!" Kennedy spat the word out. "Do you realize what it means, Bekin?"

"Serious, I admit. Looks bad for the division."

Kennedy rose from his chair. "I wasn't thinking just then of the division, or about you or me, or the Midland Central. Come here."

He beckoned the yardmaster to a window which commanded a view of the long rambling shed that was the freight depot. A line of produce-laden wagons jammed the loading platform on the receiving side. Overalled farmers milled about excitedly.

"See that," t h u n d e r e d Kennedy. "Those were the fellows I was thinking about. With no trains running, they can't get their stuff to market. It'll rot in the depot or they'll leave it in the fields. It means a year's work gone for nothing, a crop lost. And why? Because the railroad they counted on failed them at a crucial time."

"Too bad," declared Bekin. "It's their tough luck, though."

Sweat beads stood out on Kennedy's forehead. "No, by Jehosophat, it isn't!" He went back to his desk, sat down. "Bekin, you'll get trains moving out of here today if you have to shift cars yourself."

"And if it is physically impossible to break the jam?" queried the yardmaster.

Kennedy's shoulders sagged. "If necessary I'll put an embargo in force—tomorrow."

IT was a hectic, temper-trying day for Dan Carter. Bekin seemed to take all his venom for the yard mess out on Dan, hounding him continually through the busy morning hours.

There was a lot of activity, tremendous bustle. But Dan noticed several placements that bottled up needed cars, saw the coal supply shunted into the deep end

of a siding and closed in where it would be impossible to get it out again and onto the chute at six p.m. without moving the yard around.

As the day wore on the knot seemed to tighten, rather than untangle. It was like playing checkers with too many men. The board was so full that no moves could be made. Not a freight train left Marlow all day. Even No. 6 was canceled.

Toward six o'clock, Superintendent Kennedy came down into the yard himself. He sought out Bekin who was—as he had been most of the day—close beside Dan.

"No use," Bekin said wearily in response to Kennedy's query. "Better have the embargo orders posted."

An idea that Dan had been toying with all afternoon suddenly crystallized in his brain. If only he could get hold of a train sheet! He stepped forward.

"Mr. Kennedy, I've been in the yard some time now. If—er—I think if you'll let me do it my way, I can clear the yard tonight."

Kennedy started. Bekin stared in astonishment. Dan flushed under their combined gaze. But he was sure his plan was good and he stood his ground, talking more to the superintendent than to Bekin.

The super brightened. "It sounds good, Carter. Worth trying, anyhow."

Bekin nodded. "We can try it if you want. I admit I'm licked."

"Who has the night trick?" asked Kennedy.

"Cummings," replied Bekin.

"All right, he's relieved for tonight. I'm going to give Carter a chance."

Dan started to say something about the discoveries he had already made in the Marlow yard that were recorded in his case book.

"Never mind that now," Kennedy interrupted. "We'll take those things up later. Tonight you're yardmaster. You asked for it, and I'm giving it to you. You've got till morning to unsnarl the garden. Now get busy. And, Carter, I want all the reefers on hand iced, and made into trains ready to roll the minute they're made up."

"But the schedule!" protested Bekin.

"To hell with the schedule!" barked Kennedy. "Those farmers are going to have trains if I have to run every drag in extra sections."

Yardmaster for a Night

EVEN as he realized the responsibility that rested on his shoulders, Dan was thrilled. He forgot how tired he was, forgot he had already done a day's work, forgot everything but the difficult problem ahead of him.

Once more Dan sought out Virgil Swain. The old conductor was sitting moodily in his red caboose reading a copy of *The Argosy*.

"I'm yardmaster tonight, Mr. Swain," he announced.

"My gosh!" The magazine dropped from Swain's hands.

"Going to use extra men," Dan went on. "And I want your help. Can you give me a list of real rails—straight forward, honest men?"

"You want *my* help? Pull into a passing track and lay over till I get this clear."

Dan explained in detail.

"Honest men, eh?" Swain replied. "Dan, honesty these days is likely to be a matter of price rather than principle." He scratched his nose with his left thumb. "Funny too. Take that fellow Gene Debs who used to fire a little old switch engine on the Terre Haute & Indianapolis road. As honest a man and as fine a rail as ever drew the breath of life. Yet mark my words, Dan! They'll land him in jail and break his heart before he's through."

"But, Mr. Swain, I need men right here in Marlow."

"So you do," Swain chuckled. "Well, there's Lew Badger, Al Gilman, Dixie Sawyer, Herb Tutherly." He counted the names off on his fingers. "Jake Linscott, Jimmy Brennan, Pete Ripley, and Bill Keyes. All good men with a link pin or a brake stick, and straight as a die, every one of 'em. Now for hoggers and firemen . . ." He rattled off another string of names.

Dan sent call boys hot-footing after the men whose names Swain had given him, and ordered extra power out of the roundhouse.

Then he got a train sheet from the dispatcher. That worthy threw up his hands in horror when the temporary yardmaster insisted he be kept posted at all times on train movements through Marlow in both directions. Dan explained he intended using just as much of the north and southbound main lines as he needed to release some of his sidings and give his crews working room.

"Lord help us if you get a string of cars out there and tie up the night mail or the Lake City Flyer!" the dispatcher exclaimed.

"I'm taking that risk," Carter flung back as a hostler hurried up to him.

"Plenty of hogs in the roundhouse," he reported, "but they need coal and the chute's about empty."

"I'll have coal over."

That was Dan's first job. He knew where the cars were, knew they were blocked in. However, he cleared them and got the precious black diamonds onto the chute. Next he bunched the scattered cripples on the rip track. As fast as he gathered them into strings he shot them down the line to the South Marlow cripple yard, a mile away at the edge of town.

With his extra power coaled up, the yard became a bee hive of activity. Engines chugged and snorted back and forth, spewing spent steam into the cool night air. Coal smoke hung like a pall over everything. Bells clanged, whistles tooted. Lanterns swung signals in a dozen places at once, flickering over the yard like a swarm of fireflies. Men called to one another as cars clattered over frogs.

Under Dan's inspired enthusiasm his crews changed from a group of individuals to a smooth-running, quick-thinking part of well-oiled machinery.

By some miracle Dan utilized the main lines without holding up a single through train. He had to make track movements dovetail perfectly to do it. For a while the yard looked messier than ever. Cars everywhere, most of them moving. Then suddenly the pieces fitted together and the jam dissolved into thin air.

ABOUT midnight Superintendent Kennedy came down. He gave a grunt of astonishment as he looked over the yard. Motive power was rolling back into the roundhouse. Tired, sweat-grimed men laughed and slapped each other on the back as they walked down the cinder paths.

Kennedy didn't notice Dan, so he dropped back to the dispatcher's office and left word that he wanted to see Carter in the morning.

"Be sure he gets the message," said Kennedy. "I'm going to bed, and the first decent sleep I've had in a week. They'll probably have those delayed reefers made up soon. Run them out extra the minute they're ready."

"Won't be long, Mr. Kennedy." The dispatcher tilted his green eyeshade back on his forehead. "That youngster's good."

The super smiled. "I know it." He turned to go. "Oh, yes, before your relief comes on, better tear up those tentative embargo orders."

"Yes, sir."

Dan Carter was weary as only a man can be who has worked from morning until midnight. But pleased with his night's work. There was something about railroading, he felt, that did things to a man's insides, pleasant things.

He sat by a switch stand to rest, leaning his back against the metal upright. For the moment he enjoyed being alone and quiet in the midst of the noise and movement that surrounded him.

"Dan Carter!"

Dan started at a feminine voice and rose to his feet.

"Beth! What are *you* doing here at this time of night?" He could only glimpse the girl's face in the darkness, but he knew she was excited, tense.

"It's about Ernie. He's in trouble."

"What kind of trouble?"

"He won't tell me."

"What do you want me to do?" Dan's tone was flat, colorless.

"Talk to him. He'll tell you." A half sob escaped the woman's lips. "Why didn't you ever come out to the house, the way we planned? Dan, you could have kept Ernie away from the dreadful places he goes to and the bad company he's gotten into."

"I'm no nursemaid."

"I—I didn't mean just that. We could all have been such good friends."

Dan felt strangely uncomfortable. He couldn't tell her why he had not called, why he and Ernie no longer saw each other. He hedged.

"Isn't there somebody else who could talk to Ernie?"

Beth drew herself up coldly. "If you feel that way about it," she said, "there is. There's Frank Bekin. But I didn't want to ask him because—well, Ernie asked for you. And besides, I didn't want Frank to know." She dropped her eyes. "You see, we're engaged, and it isn't very nice to have to tell your fiancé your brother is in trouble."

AN electric shock ran through Dan's veins. He scarcely heard Beth's last words.

"Engaged?" he muttered, realizing as he had known the first time he met Beth Sargent that he was madly in love with her himself. "Congratulations," he managed to add after a pause and smiled wryly. "Yeah, sure I'll see Ernie," he went on hurriedly. "I'll see him tomorrow."

The girl held out her hand. "Thank you, Dan," she said simply.

Still fighting back his mixed emotions, Dan held her hand in his, felt the warmth of its pressure.

"I'd better go now," said Beth, withdrawing her hand abruptly.

"I'm nearly through. It's pretty late," replied Dan. "Wait until I get these reefers ready and I'll take you home."

"You don't need to. But thanks just the same. Frank's waiting for me at the depot with the trap and a new roan trotter that he claims can do a mile in two-twenty."

"Yeah?" said Dan dejectedly. "Well, I'll walk over to the station with you anyhow."

The girl accepted his offer, a load lifted from her mind by Dan's promise to see her brother in the morning. She didn't know how deeply that load weighed on Dan's soul, nor of the new one she had just added by announcing her engagement.

Silently the pair crossed the yard together and found Frank Bekin in the dispatcher's office. The dispatcher turned to Dan, gave him Kennedy's message. Then he picked a sheet of tissue off his desk. It was folded, and marked "Yardmaster" on the top.

"The op left this for you. 'Personal,' he said."

Dan raised his eyebrows. Who could be sending him a personal wire? he wondered. It was from Chicago and in code.

Yardmaster Marlow:
Bekin jewelry aconite remedial anticipation.

Dan's brows clouded. Meant for Bekin, of course. He walked over slowly toward the yardmaster. It was hard to be civil to the man who had won the girl that he himself loved, but for Beth's sake he would at least be a gentleman.

"This was given me by mistake," he

said evenly. "It's for you."

Bekin snatched the paper from Dan's hand. For an instant his face went white as he read the message. But he controlled himself and smiled.

"'Thanks. Not important. Just a matter of some stocks I own."

Dan's eyes darkened. Then he cursed his own suspicions. Hell, he just didn't like the dude yardmaster, that was all. The code message could just as reasonably concern a stock transaction as—something else. More reasonably, in fact.

"Let's go, Frank," said Beth. "It's late and I'm awfully tired." She gave Dan a friendly smile. "Good night, Mr. Carter, and thanks a lot."

"Good night, Miss Sargent." Dan's voice sounded strangely metallic in his ears.

The yardmaster linked his arm in Beth's. The door slammed. A freight jack whistled outside the office. A string of Midland Central reefers rattled onto the main line.

BEKIN drove Beth Sargent home quickly. Plainly the message from Chicago troubled him. Beth sensed it.

"What's the matter, Frank? You seem so preoccupied. Was there bad news in that wire?"

Bekin regarded her with a start. "No. Nothing's the matter, honey." He smiled reassuringly at the girl beside him. "Only I wish you'd agree to an early marriage like I suggested. Sometimes it's hard to wait when a fellow has the house picked out and everything."

Pleadingly he looked into her eyes, and the maiden blushed. All nice young ladies blushed when a delicate subject like marriage was mentioned back in the gay nineties.

"I guess I am a little old-fashioned, Frank dear," she said finally, "but I don't believe in quick marriages. Be good and patient as you always have been, and everything'll be all right."

Bekin glanced down at the woman beside him and felt in no mood to argue just then. Nothing more was said on the subject during the journey to the little frame house on Maple Street which Beth and her brother occupied.

Impending Disaster

DAN was through with the yard job early in the morning. "Night. Thanks, fellows," he called to his hustling, jostling homebound crews.

His eyes followed the dark bulk of their bodies as they scattered in a dozen different directions. A loyal bunch of fine men. True rails. Dan was proud to be counted one of them. Not as their boss. That was only temporary. But as a fellow worker.

The cheery voice of Conductor Swain jarred him out of his reverie. "Hello, yardmaster!"

"Howdy, Mr. Swain," said Dan. "Come over to the beanery and have some ham and eggs before you turn in. There's a new waitress just came on tonight," the old fellow added with a sly chuckle. "Golden curls and baby blue eyes—and hard as nails."

"Doesn't interest me," came the reply. "I got something else to think about. Twenty-eight, that drag of empty coal hoppers for Minetown, will be coming through in a minute. I'm going to ride her out to the yard limit. I can short cut across the field there and it'll save me walking home."

As the veteran freight conductor headed for the beanery Dan heard 28's distant whistle call and started around a box car for the track she would come in on. Once he thought he caught the crunch of cinders behind him. Thinking it was Swain again, he turned his head but saw no one in the murky darkness.

"Getting jumpy, I guess," he grum-

bled, and wished he were already home in bed.

As he drew into the deep shadows at the end of the box car he heard running feet and muffled voices. Suddenly a heavy club descended on his head. The blow crumpled him to his knees.

Dan staggered, tried to strike out at his assailants. Again the brutal club descended. A gruff voice murmured:

"Lemme get this sack over his dome."

He felt arms grab him as he attempted to struggle. The vicious weapon smashed down again. Over the left ear this time, and his world went suddenly black . . .

WHEN Dan came to, the rhythmic click of car wheels over rail joints was drumming a painful dirge. His head was throbbing. The air he tried to breathe was stifling and he was in pitch darkness. His mouth was parched.

Gradually his brain began to function. Shooting pains ran through his cramped body, for he was bound hand and foot. The jute fibres of the sack over his head tickled his nostrils in a manner that was almost torture.

Dan moved his hands slightly and felt cold steel. He'd caught No. 28 with a vengeance, was in one of the empty coal cars now. Voices rasped on his ears.

"Ain't that guy stirred yet? We're pretty near there."

"Yeah, he's comin' out of it."

With the chilling metal of a gun muzzle boring into his stomach Dan was given instructions.

"We're droppin' off here, see. Yuh get yuhr feet loose an' we'll hoist yuh over the side till they catch the bottom step. We'll hold yuh. When we say, 'Jump,' yuh jump; see? An' if yuh don't like it we'll pitch yuh out trussed up like yuh are an' take a chance on breakin' yuhr damn neck."

Dan agreed but pleaded for them to take the sack off his head so he could see what he was doing. His captors debated the question. Finally they consented. The bonds on Dan's feet were removed, the gunnysack lifted from his head.

Dan studied the faces of his companions. There were three men, two short fellows and a tall one whom Dan instantly recognized.

"Rasnik!" he exclaimed.

"Yeah," was the grunted reply. "What of it?"

"Get ready. We bail out now," snapped one of the smaller men. It was he whose revolver pressed into Dan's side.

The awkward jump was made. As Dan picked himself up from the roadbed he considered the possibility of cutting over the right-of-way fence and running for it. But immediately he dismissed the idea as sheer suicide.

Then he thought of making a wild leap for the crummy as it rolled past, or of yelling to the crew. However, before the rear end clattered by, he was again surrounded by his captors and the menacing gun prodded his ribs.

In the east the first green streaks of dawn were pushing back night's dark curtain. Dan glanced about, endeavoring to get his bearings. His mouth widened to a grim smile. He knew where he was. That, at least, was something. The jump had been made at Benton switch.

"Let's go," said the man with the gun, nodding toward a single pair of tracks that led off to the right around a low hill. Dan recognized the place.

"How about blindfoldin' this guy, Gus? Them was the orders," put in Rasnik.

"Aw, we left the sack on the train."

"I got a handkerchief."

A blindfold was made and tied tightly about Dan's splitting head. It made walking difficult, and he stumbled frequently as he was led over the ties and up the track that jutted out from Benton switch.

Dan flung questions at his captors. Where were they taking him? What for?

"Shut up and save yuhr breath for walkin'!" snapped the gun-wielder.

DAN shrugged his shoulders. He guessed they were taking him to Benton.

He had heard Swain speak of that place. When the Midland Central had been built originally, its single track main line curved around the hill by Benton switch and took in the town of Benton. Because wood was plentiful in the neighborhood and the early diamond-stack engines were all wood-burners, a roundhouse had been put up at Benton, together with a small machine shop.

Later, when the main line was double-tracked the road was relined, cutting through the far side of Benton hill in a long deep cut, saving mileage and eliminating curves. A new and larger roundhouse was built at Marlow to accommodate the coal burners, and Benton, on an abandoned crescent of light rail track, speedily attained the status of a ghost town.

With the railroad men gone, stores closed, houses were shut up and grass grew in the winding streets of the little hamlet that once thronged with the pioneers of steam railroading in the Midwest. An ideal place for a nice quiet murder, Dan thought.

Dan Made the Awkward Jump from the Moving Train

The sun came up. Dan could feel the warmth of its rays on his weary body. And still he was bullied and pushed and yanked along the track. Ought to be nearly there now, he mused.

A few minutes later the little cavalcade halted. Arms gripped him roughly and the captive was directed past rubbish and junk piles, and over a series of rails. He was taken into a building and through a door to a second room where his legs were securely bound again and the handkerchief taken off his eyes.

The room he found himself in was

windowless. Only a dim light streamed through chinks in the wall planking. It appeared to be an abandoned tool shed. The floor was of dirt.

Without a word the men shoved him into a corner and left, locking the door after them. After a while the door opened cautiously. One of the men had come back. He carried a cracked pitcher and a laborer's sandwich composed of two thick hunks of bread and a square of cheese in between.

The man placed these things close to the prisoner. Dan immediately reached for the pitcher and took a deep draught. The water was stale, tepid, but Dan was burning up with fever and exhaustion. It seemed the best drink he had ever tasted.

"Thanks," he said gratefully. "Now how long do I stay here? What comes next?"

The jailer looked at him blankly, turned and walked out. Dan heard the lock click once more. Then he heard the men in the next room get out a pack of cards and begin playing. Evidently, judging from the scattered scraps of muffled conversation that he was able to catch, they were waiting for someone.

Dan examined his bonds, tugged at them, looked eagerly about the room for a sharp protection—anything with which he might saw himself loose. After a half hour of hopeless effort, he gave up and in spite of himself, fell asleep. Nature had been strained to the utmost and his weary body could hold out no longer.

WHEN he awoke Dan was stiff and shivering. He did not know how long he had been asleep, but his prison was dark. Cold night air chilled his bones to the marrow. Voices were raised in the next room.

"Well," thundered the bull tones that Dan recognized as Rasnik's, "is the big boss gonna let me handle this my way?"

"Yeah, go ahead," said a voice that Dan did not seem able to place; evidently a newcomer to the hideout. "The boss wasn't too keen for murder, though."

"Rather have this kid runnin' loose with enough evidence to slap us all in jail, I guess." Rasnik let out a throaty, mirthless laugh. "Yuh explained how I was gonna fix it, didn't yuh? Like an accident. We take him back to Marlow before daylight, sprinkle liquor on him, slug him good an' drop him in the ash-pit in front of the roundhouse, with a half bottle of whisky. He got drunk, fell in, cracked his skull—see?"

Sweat beads stood out on Dan's forehead. He dug his finger nails into the clammy palms of his clenched hands. Gripped with horror at the death these men were planning for him, Dan edged toward the door and listened further.

"Suppose somebody sees us?" asked one of the plotters.

Rasnik's single track brain was ready with an answer.

"Who's gonna be around with the cripple yard blazin' like a Fourth o' July bonfire?" he snorted. "Say, don't you mugs think I got sense?"

So they were going to set fire to the cripple yard? Dan groaned. And the yard was loaded with reefers that he himself had shot down there the night before, purposely concentrating them at one point. True, the cars were all marked "bad order," but some needed only minor repairs that could easily have been made on the rip track at Marlow. They'd burn like matchboxes!

Dan strained anew at his bonds, but the tightened cords only cut more deeply into his bleeding flesh. Cursing his helplessness, he finally gave up. Men were still talking outside.

"Pick up the kerosene an' waste," Rasnik ordered. "I'll take a look at the victim before we leave."

A key rasped in the rusty lock. The door opened slightly. Rasnik half entered, holding a lighted lantern over his head.

Dan's brain spun like a whirling kaleidoscope as he tried to think of some way of breaking out, some forlorn chance that might lead to escape. He simply

had to get back to Marlow and warn Kennedy of the fire that was intended to destroy so many of the Midland's reefers.

Futile schemes raced through his head as he sat there crouched against the wall, eyes glaring madly. Then suddenly the light was gone, the door locked. Dan slumped back weakly in utter dejection. His chance had vanished!

"He'll keep," came Rasnik's voice through the darkness from the other side of the wooden walls.

"Ain't you leavin' somebody to watch him?" asked the newcomer, who had brought Dan's death sentence.

"Sure I am; I'm leavin' Ernie," snarled Rasnik. "An' yuh won't run out on us neither, kid, will yuh? Not if yuh know what's good for yuh."

Ernie! Why, that must be Ernie Sargent! The prisoner repeated his name incredulously. A new hope was born.

Smoke Orders

DAN called out softly, "Ernie Sargent."

"Sssh! They ain't gone yet."

A minute later the prisoner whispered: "Get me out of here, Ernie!"

"I can't," Ernie faltered. "I—I'm afraid. They'll kill me if they come back an' find you gone."

Dan swore under his breath. The cowardice of Beth Sargent's brother was nauseating. But the ex-yardmaster was desperate. He pleaded for his freedom, trying to arouse some latent spark of manhood in Ernie's composition. If that failed he would attempt subterfuge. He could trick Ernie, he was sure.

As Dan talked he could hear the youth pacing up and down the room outside, but he did not know what anguish the weakling was going through. At last Ernie could stand it no longer.

"Let me talk awhile, Dan," he cried. "You don't, you *can't* understand."

"I know you're just a damned yellow coward," argued Dan angrily, and the words cut like a knife.

"It was easy money, Dan," came the whining voice, "an' not much to do for it at first. Just loaf on the job an' drop a few brake beams on Midland Central reefers. Then when I saw how far the boss wanted us to go—"

"Who's the boss?" Dan interrupted. "Rasnik?"

"No. He just carries out the big guy's orders. I don't know who the real boss is. Gee, I wanted to quit, Dan! Honest I did! But I was too far in. I'm rotten to the core."

"It's not too late to quit now," Dan responded evenly. "See Kennedy, make a clean breast of things and take your medicine like a man."

Ernie shuddered. With a fearful glance behind him, lest some of the gang had returned and could read his thoughts, he moved toward the door.

"Dan," he said in a hoarse whisper, "I'm lettin' you out. Then—"

"Thanks, kid," Dan responded warmly. "Don't you worry. We'll make plans later. The first thing to do is save those reefers at the cripple yard."

Dan's fists tightened. He wanted to get his hands on Rasnik, and waited impatiently for the door to be unlocked.

"Dan," Ernie's pathetic voice came through the walls again, "I haven't got the key. Rasnik took it with him."

"Then get something heavy and break down the door. Hurry!"

Dan's heart pounded almost as loudly as the hammering on the door that followed. In a short time he was free. He stood up, stretched, and rubbed the circulation back into his numbed muscles.

"Where are we anyhow?" he asked, walking past Ernie into the outer room.

"The old roundhouse at Benton."

Dan was thinking fast. He looked at his watch. Ten-thirty. The moon shone brightly, throwing weird shadows on the

tumble-down abandoned buildings. He tried to remember distances. Ten miles into Marlow from Benton switch, he knew. And perhaps two miles to the switch.

"How did Rasnik and the others go back to town?" he queried.

Ernie's reply came in quick, eager tones. The youth wanted to do something right away to atone for what was on his conscience.

"With a light buckboard an' a fast team. I don't see how we're goin' to get in in time to do any good."

AS Dan walked outside the fresh air felt good, cleared his head. Suddenly an exclamation escaped his lips. There in a corner, its bright-work tarnished, but rods up and with a thin curl of smoke issuing from its diamond-shaped stack, stood an old-fashioned high-wheeled locomotive.

"What's that?" Dan asked.

"Just a goat they use around here for switchin' once in a while. They've been dismantlin' some o' the buildin's lately."

"Where's the watchman?"

"Old Pat Harris? Banked the fires an' gone someplace, I s'pose."

Dan's eyes were still riveted on the engine. "Does she still burn wood?"

"Naw, they fitted her with coal grates before she was taken out of regular service."

"Can you fire an engine?" Dan shot the question eagerly.

"Some. I used to dig in for the tallerpots when I rode the head end." Ernie stared wide-eyed as the boldness of the other's plan dawned on him. "Can you run one, Dan?"

"Nope. But I guess I can open a throttle in a pinch."

A doubt crossed Ernie's mind. "Dan, how can we run that jack to Marlow?"

"Smoke orders," Dan answered promptly. "Got to chance it. Let's get busy."

He hastened over and climbed into the cab. The water glass showed the boiler slightly more than half full. Dan went back and peered into the tank. Three-quarters full. He sighed with relief.

Ernie grabbed a slice bar and stirred up the fire. He opened the draughts, while Dan impatiently watched the mounting pointer on the pressure gage.

At last he tried her. The drivers spun on the rusty rails with a clatter that all but shook the old teakettle apart.

"Try a little sand," suggested Ernie, showing Dan the sander valve. "An' open your throttle easier."

Dan tried again. To his joy the wheels gripped steel. Pistons squealing, the locomotive moved forward.

Ernie had already lined up the stiff, greaseless iron to the track that would lead them to Benton switch. Moaning in a hundred creaky joints, the diamond stack moved forward, slowly at first, then faster, under Dan's unpracticed hand. The safety valve let go with a pop that startled him.

"Hope she doesn't blow up on us," Dan said with a smile.

Swaying, rocking madly, taking the curves in a series of sidewise knocks that threatened to turn her over, the old engine clattered down the rails, a plume of steam feathering back from her safety valve on the dome in front of the cab.

At Benton switch Dan came to an abrupt halt that nearly stood the decrepit kettle on her nose. Ernie threw the switch onto the main line, waited until Dan had negotiated the frogs, then closed it again.

Dan's face was grim when Ernie climbed into the cab. He was on the northbound main now and heading south to Marlow. There was no crossover at Benton switch, or he would have preferred to take the southbound tracks.

The amateur hogger's whole body tensed as he opened up the throttle. "Get over on the left hand side, and keep your eyes peeled ahead," he ordered Ernie.

THE wood-burner gathered speed. Dan let her have more steam. "Roll, Jordan, roll!" he hummed in ex-

Dan Brushed Him Aside and Dashed for the Dispatcher's Office

ultation, his right hand gripping the sill of the open cab window.

Dan knew the risk he was running and was torn between conflicting aims. It was important to keep his engine under control so he could come to a stop within a reasonable distance should he meet an unexpected train. On the other hand, it was equally urgent to make all speed possible in an attempt to reach Marlow before Rasnik and his thugs could set fire to the cripple yard.

"Ernie," he called out suddenly, "remember the wreck on Number Six at Foley's Bend? Did you expect it? Was that why you were back in the middle of the train?"

Ernie gasped. In the glow of the open firebox door his face was ghastly white.

"The hostler at Hammond was paid to run the helper engine out early," he confessed through chattering teeth. "The idea was that the coal drag would run past the way she did. They only wanted to splinter up some reefers."

"And two good men were killed," Dan murmured, fighting against his feeling of revulsion for Ernie Sargent.

"Dan, you *must* believe me," the youth pleaded. "That wreck has haunted me. Every time I go to sleep I see it, Dan. God, what a fool I've been!"

The boy was shivering on the left hand seatbox. There was a misty, far-away look in his eyes, and their lips seemed to be moving in prayer. Dan left the penitent alone with his thoughts.

Strange, he mused, how easy it was for some fellows to jump the straight and narrow road, how hard to get rerailed!

Dan's gaze was riveted on the road ahead. Ernie got up like a man in a daze and tossed more coal into the firebox. Then he went back to his seat, and he too stared ahead as the little engine raced wildly on, southbound on the northbound main.

Luck rode with Dan Carter. Driving his crazy, snorting relic of old-time railroading, he skyrocketed into Marlow and halted under the glare of a freight engine's gleaming headlight.

The freight hogger had just received a highball from his con. He whistled frantically at the antique bearing down on him. Then he jumped from his cab and ran forward.

"What in hell's the idea?" he stormed.

Dan brushed him aside and, with Ernie tagging at his heels, dashed for the dispatcher's office. He was surprised to find Superintendent Kennedy there.

Kennedy glared at him angrily. "You were supposed to come to my office this morning. Where've you been all day?"

"I'll explain later," panted Dan. "They—they're going to set fire to the South Marlow cripple yard!"

"Who's going to what?"

Dan swayed by the door, trying to get his breath and his wits together at the same time. Just then the night operator jumped from his table, yelling:

"*Fire!* Looks like the cripple yard's gone up! You can see the flames from the window."

There followed a concerted rush for the door.

Blazing Refrigerator Cars

FROM the tracks outside the dispatcher's office could be seen a dull red glow to the south, punctuated now and then by tongues of flame that leaped skyward. Smoke rose in heavy billows. The tang of burning wood was in the air. The yard fire siren screamed.

"Where's the night yardmaster?" thundered Kennedy.

A moment later came the shrill cry of fire whistles, the clang of bells, and the gallop of racing horses. The Marlow fire engines wheeled out of the station house behind the passenger depot and sped to the blaze.

Cummings, the night Y. M., came running across the tracks.

"If it's the cripple yard, to hell with the buildings," directed Kennedy. "Save the reefers first! Get your power down there and haul them out. Take plenty of chains." He turned to Dan. "What were you trying to tell me? You look all banged up. Where've you been?"

Dan quickly told what had happened since the previous evening. The super cursed under his breath. Then he smiled at Dan.

"Good work, son. Tired? Or can you keep going a little longer?"

"If I had time for a cup of black coffee—"

"Sure thing. I've got to go to my office a minute. Meet me here when I get back."

Dan hurried over to the railroad café. Ernie was right behind him. A change had come over Ernie. The old weakness and indecision were gone.

"I'm sticking with you, Dan," he said slowly, "no matter what happens."

"Come on then," responded his companion. "Let's eat."

While gulping their hot coffee and ham and eggs, the two young men could hear the crackling of the flames at South Marlow and the noise of locomotives rolling to the scene of the fire and the confusion of men darting about outside.

Dan's hunger suddenly left him. Ernie, too, said he had no more appetite. The pair left their unfinished breakfast and hurried outside.

In a moment Kennedy rushed down.

"All right, Carter," he snapped. "We'll swing into the cab of this switcher."

Ernie climbed to the cab steps behind Dan and clung to a grab-rail.

"Who's that fellow?" Kennedy wanted to know.

"He's with me," said Dan.

Kennedy turned to the yard hogger. "Come on, Satchel Pants, open this goat up. Let's highball!"

They stopped at last in the hot glare of the flames amid a press of snorting locomotives, clamoring men and general pandemonium. As they alighted, Dan recognized Virgil Swain running toward the superintendent. From somewhere the little man had gotten hold of a fireman's hat.

"These jacks coming down can't get close enough to snake the reefers out," he panted. "The car knockers' shed's gone up like a tinder box. The reefers is beginning to catch."

A POMPOUS figure with a gold fire chief's badge on the breast of his long blue coat and perspiration pouring off his face pushed through the crowd.

"Mr. Kennedy," he said, "we can't do nothin' with these locomotives all over the place. They're interferin' with our hose lines."

"I'll attend to them," the super answered crisply. "How's the fire?"

"Worst I ever seen," groaned the fire chief.

Dan turned to Kennedy. "With some help and a dozen pinch bars I believe I could move those cars out where the engines can hook onto 'em."

"That's an idea!" The superintendent called for volunteers to go with Carter.

The first man to step forward was Ernie. Swain wasn't far behind. Someone produced a supply of pinch bars.

"Keep close to the ground, fellows," Dan instructed. "Don't get rattled."

Slowly they edged forward. Smoke stifled Dan, and the searing heat seemed to peel the skin off his face. But still he kept on.

They found a reefer, pinched it along to safety. Then another and another. Dan's hands were blistered, his head throbbing.

Kennedy watched the cars roll out. "By Jehosophat!" he exclaimed. "They're moving, all right."

He called for another gang of volunteers. Then he said to a hogger:

"Regan, some of those cars are afire. Most of 'em smoking. Get down on that track alongside of 'em and rake 'em with steam. It'll either smother the flame or the moisture'll quench it. Watch out for men working, though."

Kennedy looked around him. The tracks were swarming with people, townsfolk as well as railroad men. All Marlow seemed to have turned out to witness the conflagration.

"Get those people out of here," he roared to one of Marlow's uniformed, gray-helmeted policemen. "Where's the chief? Tell him to throw out fire lines and clear the spectators back."

Dan fought to get the reefers free. Never in his life had he suffered such intense heat. He was working on the last string now. A group of four cars near a blazing shed. Ernie was right behind.

A low sweeping wave of smoke engulfed him. The acrid vapor stung his eyes and he closed them. He heard a fearful rending as the shed roof collapsed. Then a warning shout.

Ernie saw the heavy blazing beam, a corner-post of the shed, toppling toward them. And in that split-second the last spark of manhood left in his soul flared up into pure white flame. He might have jumped to safety himself.

Instead, he made a desperate lunge at Dan, shoving him from the path of the falling beam. Almost in the same movement Ernie pitched headlong to the ground. Balked of one victim, the flaming timber found another. It crashed squarely down on the head brakeman's prostrate form.

Dan felt the flames brush his cheek as he stumbled to his feet after Ernie's push. He heard the terrific impact and called to Ernie. Then, with a gasp of horror, saw what had happened. Ernie had redeemed himself at last, had gone to glory in a burst of flame!

DAN yelled for help, but even before more men arrived, ignoring the heat that blistered his hands and peeled the skin off his face, he tugged and struggled with the blackened timber. At last he freed Ernie's lifeless body. Lifting it into his arms, he staggered toward the group of men that came running to his assistance.

Even as he laid the body gently on the ground clear of the blazing inferno and knelt down beside it, he knew that Ernie Sargent was dead. The weight of the falling timber had struck his head, killing him instantly.

Dan's eyes were veiled with tears.

Kennedy rushed forward. "What is it? What happened?"

Still in a daze, Dan told him.

"Phew! You had a narrow escape, Carter," said the superintendent. "That brave fellow saved your life. Who is he anyhow?"

"Ernie Sargent."

"Sargent! Why, he's listed as one of the conspirators against the Midland Central."

Dan rose to his feet slowly, an awkward lump in his throat. "Whatever he was or did," was the quiet response, "Ernie has atoned for now, Mr. Kennedy. He—he's dead."

The cars that Dan and Ernie had been working on were moving out of danger. Swain had taken over the job. The super could hear the little man's peppery voice barking shrill commands.

Suddenly Dan felt dizzy. Lights swam before his eyes. The human system can stand just so much punishment, and Dan's had been strained to the utmost. He tottered, but Kennedy's strong arms steadied him.

"Easy, son," the super comforted. "You're all in." He called loudly to Swain. "Take Carter over to my office. Make him rest there until I get back."

As he was led away, Dan's brain had room for just one throbbing thought: Ernie's tremendous sacrifice.

"He did it for me," the brakeman muttered over and over again.

SWAIN commandeered a locomotive, helped Dan to climb aboard, and ordered the hogger to run them back to Marlow. In spite of Dan's protests, he was taken into the office building and up to Kennedy's office.

"I'm all right now, Mr. Swain," he insisted. "All I needed was a little water."

Swain nodded toward a leather covered couch. "You lie down over there and take it easy. Them's Bull's orders. He'll be up soon anyhow. The fire's just about under control now."

It seemed ages before Kennedy finally stamped into the room. Dan stood up as he entered. Then he gave a little gasp. Beth Sargent was with him. The girl ran forward.

"Dan," she cried, "they—they told me about Ernie!"

The girl lifted her head proudly and fought back the hot tears that welled up in her eyes.

Kennedy was plainly excited. He turned to Dan. "All over now but the smoke. The buildings are a total loss. But we saved the reefers. Schaeffer, chief of the railroad police, asked me to tell you there was a place open for you on his force any time you wanted it."

Dan looked from Beth to the super, and shook his head. "I prefer to stay in train service, Mr. Kennedy."

"That's what I told the old fool," said Bull. "Besides, I'm going to try you out as yardmaster here at Marlow."

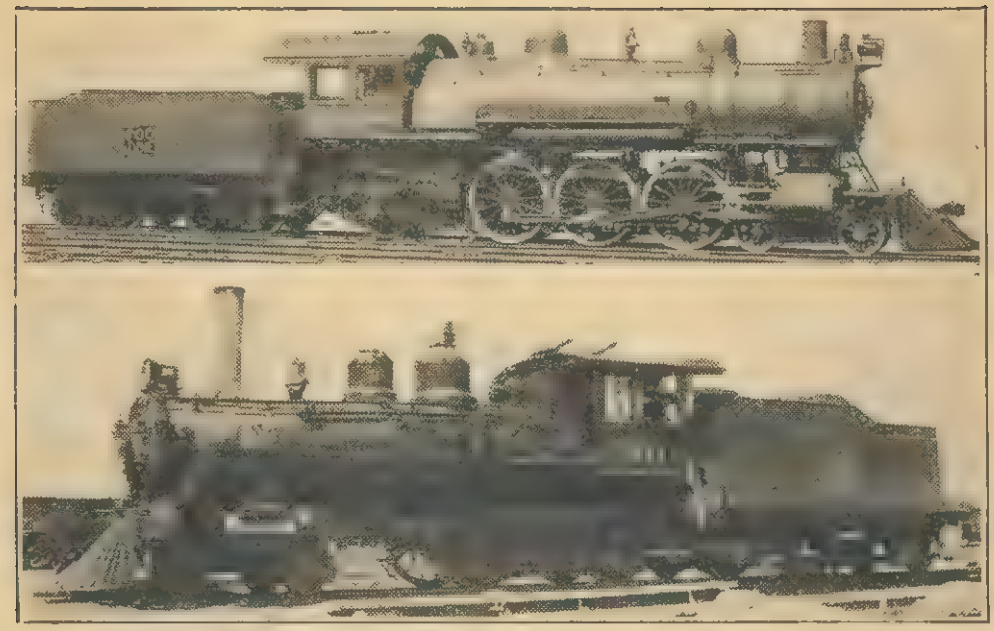
"Yardmaster!" Dan's heart thumped wildly. "What about Mr. Bekin?" he added, noting the color rise in Beth's cheeks as he mentioned the name.

Page Missing

Page Missing

Locomotives of the Soo Line (M. St. P. & S. Ste. M.)

Class	Numbers	Cylinder Dimensions (Inches)	Driver Diameters (Inches)	Boiler Pressure (Pounds)	Weight without Tender (Pounds)	Tractive Force (Pounds)	Builder
		Six-wheel Switcher (0-6-0) Type					
B	X-90	18 x 24	50	160	117,960	21,150	Rhode Island
B-1	327, 328, 330-332	19 x 24	51	180	119,600	25,990	Cooke
B-2	334-337, 339	19 x 24	51	180	127,500	25,990	Schenectady
B-2s	338	19 x 24	51	180	127,940	25,990	Schenectady
B-3	342	20 x 26	51	180	147,000	31,200	Schenectady
B-3s	340, 341, 343	20 x 26	51	180	152,380	31,200	Schenectady
B-4	344-354	20 x 26	51	180	151,000	31,200	Schenectady & Brooks
B-22	2318-2320	19 x 24	51	175	110,800	25,270	Brooks
B-23	2322, 2324, 2327	19 x 26	51	200	131,000	31,300	Brooks
B-23s	2321, 2323, 2325, 2326	19 x 26	51	200	141,000	31,300	Brooks
		Eight-Wheel or American (4-4-0) Type					
C-4	45	17 x 24	68	150	92,300	14,037	Baldwin
C-5	18, 19	17 x 24	68	150	97,000	14,037	Baldwin
C-5s C-25s	9, 15, 18, 25-27, 36 2041	17 x 24	68	150	104,200	14,037	Baldwin
		Mogul (2-6-0) Type					
D-2s	110, 114, 116, 125, 135, 152, 159, 158	20 x 26	55	180	151,600	28,930	Schenectady
		(No. 158 has 200 lbs. pressure, exerts 30,255 lbs. t.f.)					
D-2	113, 132, 141, 148, 150, 155, 166	21 & 32½ x 26	55	200	148,000	26,600	Schenectady
D-4	209	19 x 26	63	160	131,360	20,260	New York Central
D-20	2102	19 x 26	57	145	107,050	20,280	Baldwin
		Ten-Wheel (4-6-0) Type					
E-2	612	19½ x 26	63	200	166,000	26,670	Schenectady
	613	20 x 26	63	200	166,000	28,060	
E-22	2621-2624, 2630-2633, 2635-2637, 2639	20 x 26	63	200	150,700	28,060	Brooks
E-23, E-23s	2627, 2626	20 x 26	69	200	150,000	25,020	Brooks
E-24s	2640, 2642-2644	20 x 26	57	200	152,900	31,000	Brooks
E-25s	2645-2650, 2652, 2653	20 x 26	57	200	165,340	31,000	Brooks
		Consolidation (2-8-0) Type					
F-1	410, 411	19 x 24	51	180	127,270	25,992	Schenectady
F-8	414	19 x 26	51	180	127,270	28,160	Schenectady
F-7	428-430	22 x 30	55	200	189,800	39,732	Schenectady
F-8	431-438, 440, 442, 443	22 x 30	55	170	185,200	38,149	Schenectady
	439, 441, 444	22 x 30	55	200	192,100	39,732	Schenectady
F-9	445-455, 457, 459-472	22½ x 34	63	170	202,800	39,732	Schenectady
	(Some have 200 lbs. pressure, exert 41,392 lbs. t.f.)						
F-10 F-21	473, 474 2425-2428	22½ x 34	63	170	205,060	39,500	Schenectady
		(No. 2428 has 200 lbs. pressure, exerts 41,119 lbs. t.f.)					



Upper Photo Shows No. 703 As She Looked When Built; Lower, No. 36, Taken in Minneapolis Last Summer by Joseph Lavelle

F-11	475-484	25 x 30	63	170	221,000	43,000	Schenectady
F-12	485-499	25 x 30	63	170	225,000	43,000	Schenectady
F-22	2429-2443						
F-20s	2400-2403, 2405-2408, 2412-2418, 2421-2424	21 x 26	63	200	170,600	30,940	Brooks
F-23	2444-2449	25 x 30	63	170	229,500	43,000	Schenectady
Prairie (2-6-2) Type							
Js	800-809	22½ x 26	63	200	191,320	32,175	Schenectady
(Nos. 802, 804, 807 have 170 lbs. pressure, exert 30,190 lbs. t.f.)							
Decapod (2-10-0) Type							
G	950	23 x 32	55	180	212,250	47,090	Baldwin
Mikado (2-8-2) Type							
L-1	1001-1010	28 x 30	63	170	290,500	53,940	Schenectady
L-2	1011-1023	28 x 30	63	170	294,000	53,940	Dunkirk
L-20	3000-3011						
Atlantic (4-4-2) Type							
K-20	2902, 2912, 2914	20 x 26	79	200	160,400	22,380	Brooks
Pacific (4-6-2) Type							
H-1	701-722	20 x 26	69	200	211,000	25,620	Schenectady
H-2	723-726	24½ x 26	69	170	221,000	30,760	Schenectady
H-3	727-737	25 x 26	75	200	258,000	36,833	Schenectady
H-21	2704-2713						
H-20	2700-2703	20 x 26	69	200	206,160	25,620	Schenectady
H-22	2714-2717	25 x 26	75	200	264,000	36,833	Schenectady
H-23	2718-2723	25 x 26	75	200	271,000	36,833	Schenectady
Mountain (4-8-2) Type							
N-20	4000-4020	27 x 30	69	200	344,500	*53,900	Dunkirk

(Nos. 4010-4017 weigh 342,000 lbs., were built by Schenectady; Nos. 4018-4020 weigh 338,700 lbs., built by Soo)

*With booster, 64,620 lbs.

All locomotives numbered from 2011 up are Wisconsin Central engines. This line is leased and controlled by the Soo, which operates it as the Chicago Division. The Minneapolis, St. Paul & Sault Ste. Marie, in turn, is controlled by the Canadian Pacific, which owns a majority of its stock.

Next Month: FLORIDA EAST COAST RY.

On the Spot

THE "Avalanche" story is based largely upon facts gathered from Canadian "rails" on my recent visit to Canada—events which actually occurred. More than 20 years ago a crew went out to clear a slide. As stated in my story, a big slide came down upon them while they were clearing away the little one, killing the whole crew except the fireman of the rotary.

In the winter of 1932-33 snow stole a march on the same railway. The slide paths are shedded on lines kept open during the winter. But that year an avalanche came down from the opposite side of the valley, not from the direction usually pursued. It buried the tracks for a distance of more than a quarter-mile under a white blanket which was in places almost 60 feet deep! And the slide was cleared!

Despite these slides, I understand that this railroad has not killed a passenger within a dozen years. They preach "Safety First"—and practice it! Nowadays, when menacing slides hang over the tracks, experienced men are kept on lookout duty. At night, or when visibility is low, work is suspended until the laborers can move about safely.—E. S. DELLINGER, 344 N. Amherst Ave., Albuquerque, N. M.

* * *

Charlie Tyler Heard From

In my "Clear Iron" story the incident of *Tommy King* throwing the wrong switch actually happened when I was firing on the Boston & Maine. The brakeman had tuberculosis and the engineer tried to take the blame for him. I was in the cab—green myself, or I would have checked those switch lights.

I was flattered recently to receive a letter from a man who signed himself, "Your old hogger, John Robert Romans." Bob Romans! I remember him well, for many reasons. But I didn't think he recalled me, for that first winter there were so many boomers and so many green tallow-pots on the B. & M. that the engineer often had 5 or 6 hams in the cab some trips, trying to keep those tough-steaming old hogs hot. And that was 20 years ago. What I mean by 5 or 6 firemen in the cab on one trip is that a green fireman would climb off and quit when the going got tough and another would be called to replace him.—CHARLES W. TYLER, 465 W. Doran St., Glendale, Calif.

* * *

Tyler's story, "Railroad Engineer" (Oct. issue), evidently relates to the wreck of the old No. 2 at Putnam St. While I did not recognize all the characters, I did remember one in particular, Everett Conrad, who now sleeps in Flanders Fields. After leaving the B. & M., he went to Winnipeg and when Canada entered the World War he enlisted from there. He belonged to Lodge No. 410 of the B. of L. F. & E.

I went back to firing this summer the first time since 1911 and the boys on the old Tunnel line have had some tough sledding. However, I hope to see things normal soon.—BOB ROMANS, 121 Green St., Fitchburg, Mass.

* * *

"Railroad Engineer" reminds me of the wreck you mentioned and which I saw. The "Lynchburg" in your story is, of course, Fitchburg, Mass., and you sure got the details of that wreck right down to a "T." Remember the signal tower at the east end of the platform, Mr. Tyler? I guess you do, as you mentioned it in the story. I was a kid of 13 then and spent most of my spare time there with old Charlie McGinnis, learning to be an op and listening to the stories he would tell. I was in the tower the night of that wreck. My father was night yard clerk and I had some job ducking him that night so he wouldn't send me home. He spotted me around midnight and then I had to go.

As near as I can find out, the engineer on No. 8 left after the investigation and went west, later joining the Canadian army. He was killed in France. Bob Romans was firing the east yard switcher the last I heard; he said it was the best job he ever had.

All the boys around here read Tyler's stories. It's too bad he can't have one in every issue. The other writers do pretty well, but they can't come up to him.—G. R. WYATT, 218 East St., Fitchburg, Mass.

* * *

Information Wanted

I am a N. Y. Central employee; would like to hear from persons interested in radio controlled signals.—T. A. CIRMO, 1012 Morris St., Utica, N. Y.

* * *

Does anyone know about a box car which jumped from the track in the N. P. yards at Columbus, Neb., into a gully filled with water, 6 or 8 years ago? The car was submerged and, as far as I know, was never recovered.—K. BOWERS, New York City.

* * *

I would like to get in touch with anyone who remembers the Lehigh Valley 4-10-0 type No. 81 or has seen pictures of it in old books or magazines. Also I want to hear about any 2-12-0 locomotives in U. S.—GEORGE HADALLER, 2231 Benton Ave., Granite City, Ill.

* * *

Thanks for printing the picture of my grandfather, the late T. F. Willis, and old N. P. engine No. 405 (Dec. issue). I'd like to hear from old-timers who worked with him on the Burlington and the Wisconsin Central 50 years ago, if any are still living. Also those who fought with him in the Civil War, 43rd Wis. Infantry. Does any-

one know what became of Roy ("Blackie") Ellis, who used to tramp with the late Edward ("Dink") Mullally?—A. L. WILLIS, N. P. fireman, 346 6th St. N., Staples, Minn.

* * *

"59 Years in the Cab"

I clipped J. E. Mooney's true tale, "59 Years in the Cab" (Nov. issue), and put it in my scrapbook. This old hogger was a personal friend of my father, and acted as a witness when he took out citizenship papers in 1876 at Buffalo. My uncle, Morris Powers, fired for Mooney on the Lake Shore & Michigan Southern (now New York Central) back in the seventies. I remember when Ed Mooney, his brother, was running passenger on the L. S. & M. S. Ed was later master mechanic for the Lehigh Valley at Buffalo. J. E. Mooney and Powers wore plug hats and the latest style clothes, looking like the president and general manager as they walked over to the roundhouse to get their engine.

Some of the old-timers of that period are still living: Frank Carrigan, on the West Coast, now a retired passenger conductor; Will and John O'Donnell, also retired; Joe McFeiley, Jack Williams and Mike McCarthy, all close to 75 years of age.—R. L. POWERS, 175 Chicago St., Buffalo, N. Y.

* * *

Stranger Than Fiction

Due to contraction it requires several more miles of rail to complete the lines of the C. N. R. in winter than in summer. The system has a total trackage of 23,700 miles and it has been calculated that if there were an even winter temperature of zero below freezing throughout the territory served by the company, 14 more miles of track would be needed to make up for the contraction of the steel at that temperature.—G. H. LASH, C. N. R. Press Representative, 673 5th Ave., N. Y. City.

* * *

Here are 2 unusual items: Three brothers, Frank, Winfield and Harry Keyser, are assigned to the same Boston & Maine train on the New Hampshire Division as conductor, baggageman and flagman. P. Maund, an engineer on the Georgia Central, takes his locomotive home with him. He lives on a siding.—WESLEY BURLEIGH, 144 Greeley St., Rochester, N. Y.

* * *

A funeral train runs from Sydney to Rookwood, Australia, and then on to Cemetery Stops Nos. 1, 2, 3 and 4, daily except Saturday. On week days Train 367 leaves Sydney Mortuary at 1.52 o'clock and makes stops to pick up funerals, mourners and clergymen. It returns to Sydney steam station at 4.35. On Sundays 3 funeral trains run each way. They are all regularly scheduled and run especially for funeral traffic.—B. W. HUDSON, Box 111, Woonsocket, R. I.

* * *

In the Maple Leaf Dominion

There are some coaches used by the C. N. R. on their Grand Beach excursions which, I believe, have compressed-paper wheels. The wheels, instead of sloping inward from the tire, are flat from top to bottom and seem to have a steel plate riveted on the outside. This plate is not quite the same size as the wheel. The coaches, I believe, are termed Colonist sleepers and are supposedly 50 years old. On the trucks could be seen either the name Grand Trunk Pacific or Intercolonial.—W. J. LAENER, 234 Polson Ave., Winnipeg, Canada.

* * *

When trains are doubleheaded the smaller engine usually runs first. The opposite procedure is employed by the New York, Ontario & Western on its heavy freights running into New York over the West Shore tracks. This road invariably places its 4-8-2 Class Y types ahead of either a 2-6-0 or 4-6-0 camel-back.—JAMES P. MUNROE, 120 Hobart St., Ridgefield Park, N. J.

* * *

I am very interested in engines. My dad has taught me to run a locomotive, as he is an engineer on the Algoma Central.—EARL SHEPHERD (age 14), 320 Albert St., W., Sault Ste. Marie, Ont., Canada.

* * *

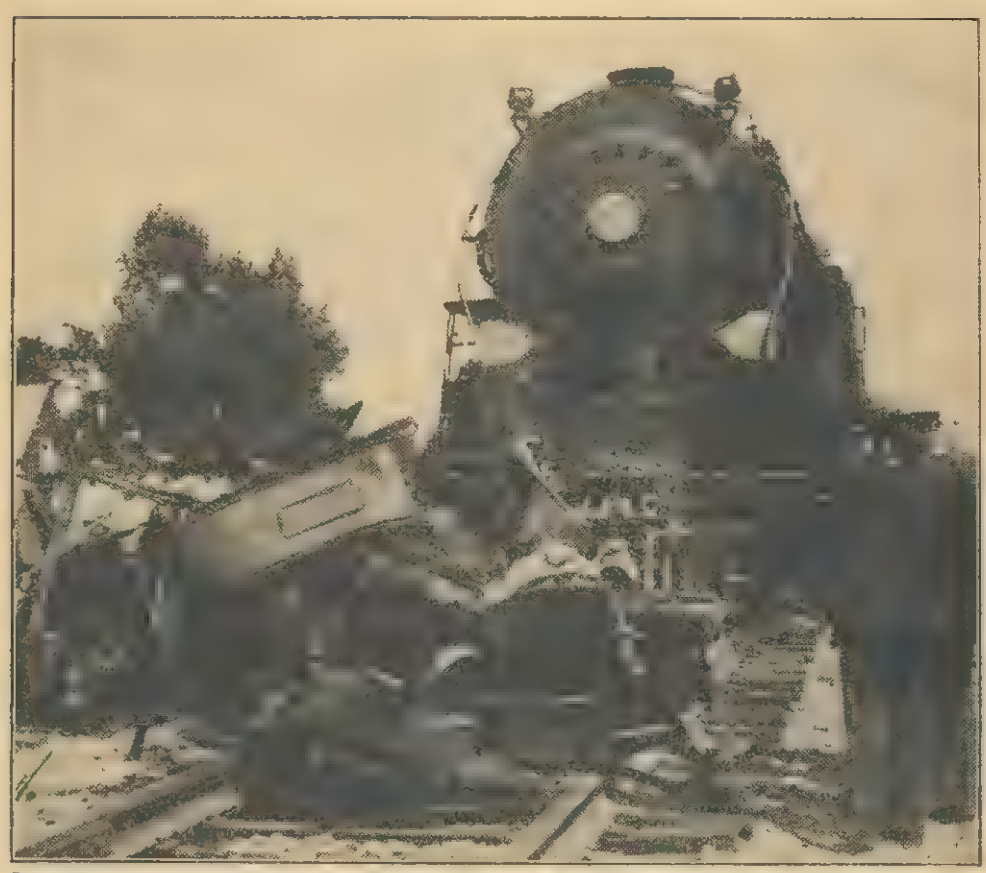
Your Dec. issue had a picture of the Vancouver Tunnel portal with a C. P. R. engine emerging. I laid out and designed the fans and duct work on that job. The fans and connecting duct work were designed at Hyde Park, Mass., fabricated at Galt, Ont., and assembled at the tunnel. They went together like a hoghead's watch. I will gladly give details to anyone interested.—L. H. LAMB, 72 Marlboro St., Belmont, Mass.

* * *

Bozo Texino in New York

On a recent visit to New York City I was much interested in the subways. Here the human being is loaded in a car just like we load cattle in Texas. The only difference is they don't use the electric prod pole on passengers or put up the bull board after they shove you inside. I being Scotch and after reading in RAILROAD STORIES how you could ride these subways 66 miles for a nickel I got my money's worth. I liked the subway fine, although I never got to where I could hang on a strap and sleep, read a newspaper, or write poetry like I saw some of the natives doing. It was easy for me to get off at the right station, but I always come up out of the wrong hole and was lost when I come up for air.

I liked the elevated lines, but being a country hoghead I was always looking at tall buildings or something and almost invariably rode past my station. On the subway, however, the only scen-



Sometimes an Automobile Beats a Railroad Train to the Crossing—but Not Always! In This Case Four Persons Were Killed at Euclid Village, O. One of the Victims Was John B. Kennedy, New York Central Track Supervisor in the Cleveland Area

ery to see is the station names. I'd like to have seen the elevated 30 years ago when they had the little steam jacks for power.—Bozo Texino, Mo. P. hoghead, Box 564, Laredo, Texas.

* * *

Railroad Movies

I have service letters from 26 U. S. and Canadian roads. Have just seen "The Return of Casey Jones" movie. For the public who know little about the actual operation of trains, this picture is all right. But from the railroad angle it is terrible. There are too many flaws.

In the scene where the troop train and the fast mail are coming together we see the headlights and the fronts of the locomotives, supposedly traveling plenty fast, not 100 yards apart—yet the hero has time to get out on the running board, tighten up something, get back in the cab, watch the air pump, and still stop short of the head-on!

Good old Casey Jones in his 212, a low-wheel jack, couldn't hit 40 m. p. h. without jumping the track, but when we get an action glimpse of his supposed train it is a Pennsy flyer pulled by a high-wheeler and hitting the high spots. And that fireman! Two scoops to a fire, both dumped in as though he were feeding the family furnace.—Roy Casey, 1576 26th E., Vancouver, B. C., Canada.

* * *

The moving picture "Tillie and Gus" shows a scene of a railroad depot and across the track is a Santa Fe engine. On the cab are painted "A. T. & S. F.," although the depot is located in Seattle! The movie companies should be careful.—Joseph Glynn, 126½ Norfolk St., Newark, N. J.

* * *

The Civil War scene from "The General" motion picture (Dec. issue) brings back memories of that film, which was taken at Cottage Grove, Ore. The roadbed was a lumber company's tracks east of town. After remaining in the water a short time the locomotive was raised to the tracks and brought back to the same outfit which originally had sold it to the movie producers. The producers had constructed several cars similar to those used during the Civil War. Up to 2 years ago they could still be seen stored on a spur track at the lumber company's mill south of town.—A. R. Hopfer, 826 E. 9th, Medford, Ore.

Rail Fans in Foreign Lands

RAILROAD STORIES stimulates me deeply. It is a pleasure to read about railroading in other countries. Most of the express trains in Japan consist of semi-steel cars painted black or dark brown. The window sills of these cars are white (first class), blue (second class) and red (third class). All our engines are painted black.—K. UCHIDA, 64 Asakacho Hongo, Tokyo, Japan.

* * *

American railroad enthusiasts must be interested in overseas railways, because I have received dozens of answers to a letter of mine you printed some time ago—so many, in fact, that I haven't time to acknowledge them all.—HUGH BENNETT, 59 Haverstock Rd., Sandringham, S. W. 1, Auckland, New Zealand.

* * *

I would welcome a few more locomotive pictures in your magazine.—JOHN P. BOOKER, 3 Oval Road, East Croydon, Surrey, England.

* * *

I have been reading RAILROAD STORIES for the past 3 years. When I finish with my copies I pass them on to brother "rails." We certainly enjoy the stories, though some of them make it appear that rail travel is not safe.

I understand that in about 1889 several British railways ran short of freight locos and imported some from the U. S. The Midland Ry. has 40 of these, all 2-6-0 Moguls. I believe Baldwin supplied 30 and Schenectady 10. Baldwins also made 10 similar hogs for the Great Northern Ry. All were scrapped prior to 1914. Can some reader supply details and photos of these U. S. locos on British railways? I believe the only American-built engine in service on a British railway is the narrow-gage tank type used on the Southern's Lynton & Barnstaple branch.—I. MACNAB, 73 Westbrooke Road, Welling, Kent, England.

* * *

"The Train Wrecker Who Terrified Europe" (Nov. issue) was of special interest to me, as I have passed over the Torbagy viaduct while going to and coming from Hungary in 1930. I am rather familiar with European railway travel. —E. W. HERMANN, 769 Bryant Ave., Bronx, N. Y.

* * *

The article by W. S. Boggs (Dec. issue) erroneously said the engine on the third stamp was made by Beyer, Peacock & Co., but she was really built by Neilson's & Co., of Glasgow, Scotland. —C. W. MENDENHALL, 1701 W. 60th St., Seattle, Wash.

* * *

Wrecks of Bygone Days

Regarding "The Wreck of the Old 97" (Jan. issue): Last year I attended a military academy at Chatham, Va., 20 miles from Danville and in plain sight of White Oak Mountain where that wreck occurred. One of the instructors, Dr. Edward S. Lester, said he had witnessed the tragedy and told us the story. The fathers of several students saw that train on its run just before the wreck. The Southern has since been rebuilt and no longer passes over the scene. My father recalls the C. & O. wreck near Guyandot, W. Va., in 1913 ("The Million-Dollar Hog," Feb., 1933, issue).

RAILROAD STORIES has become indispensable since I dropped stamp collecting and took up the engine picture hobby.—S. P. DAVIDSON, 902 Swann St., Parkersburg, W. Va.

* * *

Swamped with Mail

Since joining the International Engine Picture Club I have received dozens of letters from all over U. S. and Canada. I'd like to hear from Atlantic Coast Line employees, 1st and 2nd divisions. (My home division is the 3rd.)—D. E. FARROW, A. C. L. trainman, Rte. 3, Box 235, Tampa, Fla.

* * *

A club is being organized by railroad fans and model builders in and around Columbus. We plan trips through railroad shops and roundhouses, and other interesting activities.—VERNON C. UNDERWOOD, 885 Sheridan Ave., Bexley, Columbus, O.

* * *

January, 1934, marks the third anniversary of the International Engine Picture Club, as in your Jan., 1931, issue appeared the first list of engine picture collectors. When that list was printed my name appeared, although at that time I had very few pictures. I now have over 3,000 listed photographs of engines of U. S., Canada, England and other countries. Moreover, I have had the privilege of corresponding with over 200 fellows, exchanging photos or rosters with them. I have met some personally and have formed valuable friendships. On my last visit to Montreal I wore my "International Engine Picture Club" button and was allowed to enter the Canadian Pacific yards to make photos. This makes my 1,075th letter on that subject since Jan., 1931, not counting postcards.—E. K. HEATH, Box 15, Barre, Vt.

* * *

First Big Train Robbery

"America's First Big Train Robbery" (Dec. issue) failed to mention Clint Reno, an important member of the gang. I was born in Brownstown, Ind., where memories of the Renos is still vivid. Not 3 miles west, at the outskirts of Seymour, is a place known as "Hangman's Crossing," where the bandits were lynched in 1868. Years afterward Clint Reno and John Hardesty, 2 members of the gang who escaped lynching, were arrested at Seymour for carrying a basket full of counterfeit half dollars.

The Renos were original in their method of robbing trains, and the method has never been improved upon. They would cut off the express car and run it 3 or 4 miles up the track where they could work unhindered.

Mrs. Reno was a typical German housewife who grieved over her boys. She couldn't understand why they had turned to crime, and blamed it on the after-effects of the Civil War. My mother often spoke of her fine character. John Reno operated a drug store at Garden City, Kansas, in 1899. Kansas was a dry state at the time, so the druggists sold whisky to increase their

profits. I spent half a day visiting John and telling of old times.

Vigilantes hanged many an outlaw from the old covered wooden bridge a mile west of Ewing. It was unsafe for citizens to be on the streets of Seymour at night. They were slugged and robbed until an organization of determined men of the entire country removed the menace with ropes.—FRANK A. HILKER (old-time boomer), Route 2, 56-A, Decatur, Ill.

* * *

Information printed under the photo of J. M: & I. engine No. 634 (Dec. issue) was inadequate. This engine was built by Baldwin in 1850 as a rack rail engine for use on the Madison incline. Her original name was, I believe, "John Brough," but in 1867 (the year before "America's first big train robbery") she was rebuilt as the "M. G. Bright," No. 34. As rebuilt, she was strictly an adhesion engine, the rack rail having been discarded. Later, when the J. M. & I. was absorbed by the "Panhandle" or P. C. C. & St. L., she was renumbered 634.—ROBERT C. SCHMID, 466 Lexington Ave., Room 1415, New York City.

* * *

The Ohio & Mississippi engine photo at the bottom of page 38, Dec. issue, had "O. & M. R. W." painted on the tender. The R. W. abbreviation for "railway" was unusual.—J. D., Ottawa, Canada.

* * *

I have an employee's timecard for the old Indianapolis, Peru & Chicago, dated Dec. 5, 1875. Also 3 or 4 conductor's hat checks from that road and a J. M. & I. excursion ticket for a trip between Indianapolis and Southern Park, July 4, 1874. The article on "America's First Big Train Robbery" led me to hunt up these articles.

My father, Charles R. Cox, was a messenger for the old U. S. Express Co. from 1870 to 1879. His run was on the I. P. & C., the Michigan Central and, I think, the Lake Shore also. The I. P. & C. ran between Michigan City and is now part of the Nickel Plate.—J. M. COX, 102 W. 5th St., Peru, Ind.

* * *

The Midland Terminal Ry.

A. S., of White Plains, N. Y. (Nov. issue), was interested in the freight business of the Midland Terminal Ry. There is none. The only two stops on the line at present are the gold mining towns of Victor and Cripple Creek. It does, however, run a string of empty ore cars up at night and bring back the loaded ones. The M. T.'s entire passenger and express business is handled on a remodeled old trolley car, powered with 2 automobile engines. This makes one round trip daily, carrying about 6 passengers and groceries and other light articles. The line is owned by the owner of the mines, and is operated chiefly to handle the ore.—H. E. PEASE, 51 Empire St., Providence, R. I.

* * *

I have always been interested in the South Park and was hoping some good writer would write a story about it. When that true tale appeared in your Dec. issue I read it through 3 times.—P. B. PATTERSON, 2573 Cabot, Detroit, Mich.

Memories of the D. & R. G.

I worked all along the D. & R. G. in the eating houses. I was yard man at Cimarron from July to the middle of Dec., 1906. My job was to hit the iron triangle that called passengers to meals. While there I was introduced to Engineer L. R. Lathrop, father of the author of "Diamond Stacks" (Nov. issue). They used to call me "Kansas" because I came from Topeka. I was the last cook at the old depot in Salt Lake City, so you see I fed the boys all along the D. & R. G. W.—ALBERT KERLIN, 2243 W. 10 Pl., Gary, Ind.

* * *

Interesting Old Roads

Recently I visited Goldfield, Nev., to see landmarks of the abandoned Tonopah & Tidewater R. R. I drove out over the old right-of-way from Goldfield for 6 miles, winding through the desert. This stretch of roadbed is still intact, but all rails and ties have gone. At Goldfield I saw the old depot, a stone structure still in good condition. I'd like to hear from anyone who knows this road's history; also the history of the old Silver Peak R. R. which used to run from Blair to Blair Jct., Nev.—K. W. PENNINGTON, 721 S. Center St., Reno, Nev.

* * *

The old California & Nevada R. R., 3 ft. gage, built about 1890, ran 22 miles from 40th and San Pablo, Oakland, to Bryant, Calif., following the Santa Fe's present route as far as E. Richmond, then up the San Pablo Valley through cuts and over many trestles. I have a picture of their No. 3 engine, a 2-6-0 named "Porter Bell." This little road is now part of the Santa Fe.—L. J. CIAPPONI, 1510 98th Ave., Oakland, Calif.

* * *

E. L. Bennett (Dec. issue) asked for information on the Conhocton. This road was chartered as the Buffalo & Conhocton Valley Railroad around 1850. It was to run from Buffalo on Lake Erie to New York City by way of Batavia, Avon and Corning. Its name was later changed to the Buffalo, Corning & New York. Tracks were laid through Batavia and trains ran in 1853, but the next year the track was torn up between Batavia and Buffalo. The line east of Batavia was sold to the Erie and now is part of the Attica Branch (Rochester Div.). The old grade west of Batavia is still intact; some of it is used by the Niagara Hudson Power Co.—HAROLD A. CRAIG, Alexander, N. Y.

* * *

Hogheads, Please Write!

The following want to get letters from railroad men anywhere, preferably engineers or firemen: Henry Tiedemann (age 14), Box 599, Lincoln Park, N. J.; Anthony Knapik (age 15), 513 Delaware Ave., Olyphant, Pa.; James O'Brien (age 14), 89-20 182nd Pl., Jamaica, L. I., N. Y.; Walter J. Suronik (age 20), Route 2, Box 17, Caldwell, Tex.; Arthur Beswick (age 13), 14 Hine St., West Haven, Conn.; Mrs. F. Sasse, Box 563,

From Collection of Robert L. Banks, 6 W. 77th St., New York City

(Top) Cable Car No. 61 with Trailer; Formerly a Horse Car on the old U. S. Railroad of San Francisco; (Middle) San Diego Electric No. 42; (Bottom) Trolley No. 2, Castro St. Cable Ry. of San Francisco

Taylor, Tex. (prefers letters from Texans), John Kachuta, 102 Elder St., East Pittsburgh, Pa. (prefers narrow-gage hoggers); Jack Tobias (age 16), 836 McKnight St., Reading, Pa.; George Curtis (age 13), Turner Valley, Alta., Canada; Dick Newman (age 14), 37 Drake Rd., Scarsdale, N. Y.

W. M. Bryan, Jr., 406 E. Geer St., Durham, N. C., wants to correspond with any P. R. R. engineer, also an engineer on the S. A. L. "Southern States Special." I. Sepster, 21 Liberty Ave., Jersey City, N. J., wants to get acquainted with Erie enginemen operating out of Jersey City.

The Reader's View

I got a big kick out of the letter from C. H. Hutchinson, Wilmington, N. C., in Dec "Spot" department. I used to room with Charlie Hutchinson when we were both firemen on tral.—ALLEN I. PLUMMER, Wolla

* * *

C. R. Norwood of Brooklyn, issue puts out the dope that the are a bunch of rusty pikes. We debted to Mr. Norwood for his tion. It is the talk around the that we are going to get automa air brakes.—WARREN J. GREEN, Chester Lane, Bakersfield, Calif.

* * *

Get rid of all the trashy ficti more facts.—JAMES ALLEN, 196 Toronto 3, Ont., Canada.

* * *

How about running a section devoted to news and reviews of all kinds of railroad books, fiction and non-fiction, instead of one of the present 6 popular departments? Freeman H. Hubbard, managing editor of RAILROAD STORIES, advises me that no such section will be started unless there is a big demand for it; so anyone interested should send the editor a letter or postal card.—FRANK DONOVAN, JR., 1919 Arch St., Philadelphia, Pa.

* * *

Gas-electric stream-lined trains are too modern. I much prefer to smell smoke and steam, hang out a cab window and watch the rails rush toward me. What do other men think?—JOHN KUELLING, N. Y. C. fireman, Buffalo, N. Y.

* * *

Give us more engine photos, particularly from the period 1890-1900, when the old American 4-8-0 type reached its zenith.—G. H. RIEHL, 4601 Hamilton Ave., Cincinnati, O.

* * *

When I came here last June one of the drug stores carried your magazine, but the company clubhouse cigar counter had never even heard of it! I got them to put it on sale, and each issue is soon sold out.—J. O. BRIER, Boulder City, Nev.

* * *

Regarding Thomas Kane's train order problem (Dec. issue): Extra 105 East would have to stay at "B" for Second 4 unless sent further orders on another train, or flagged out.—GRANT S. ALLEN, Box 1162, Boulder City, Nev.

Railroad Rimes

In the winter of 1914-15, while living at Ashley, Mich., I became acquainted with a number of men working on a branch of the Grand Trunk extending from that point to Muskegon on Lake Michigan. They used to sing a song called "Shore Line Red." The Shore Line was D. & T. S. L. from Detroit to Toledo, over which the G. T. hauled freight. The "Leaky Roof" was, I believe, a nickname for the same. Only a few lines of the song remain in my mind:

KERNS, Dover, N. J.

* * *

I want the words to these poems: "The Midnight Express," "She Waves as His Train Passes," "Engine 143," "The Switchman's Sweetheart," and the poem about the conductor whose bride is killed; each verse ends with "in the little red caboose behind the train."—CHARLES BARON, Box 432, Holliday's Cove, W. Va.

* * *

AT THE ENGINEER'S GRAVE

HOW often, at night, when I'm rocked o'er the rail,
When the little stars shine overhead,
My mind wanders back over memory's trail
And I think of the days that are dead.
The red locomotives we had for our toys,
The coaches so gaudy and gay,
How we played together, Bill, when we were boys,
And again I can hear you say:

"Chu-chu, chu-chu, here comes the railroad,
You'll be the brakeman and open the bars."
Big bell a-ringing, somebody singing,
"Chu-chu, chu-chu, here come the cars."

And now, where your sleep is so dreamless and still,
In this silent city I stroll;
Oh, send me some signal, or speak to me, Bill;
How is it, old friend, with the soul?
How is it up there on your heavenly railroad?
The moon for a headlight, for white lights the stars;
Glad bells a-ringing, angels a-singing,
"Chu-chu, chu-chu, here come the cars."

—Cy Warman

International Engine Picture Club

AILROAD enthusiasts and engine picture collectors, here is a new ect in American engine pics! The H. O. Bailey, Jr., dios, 811 Cherry St., Philadelphia, Pa., have made magnificent 10 x 26 inch (13 x 30 with border) colored photo-engravings of America's most popular locomotive, the New York Central Hudson type. These are first of a series of similar engravings to cover the entire U. S. and Canada. The New York Central engine is shown with the Hudson River in the background, and is printed in natural colors on good, heavy paper. It is suitable for framing or can be hung on the wall as is. It has been enthusiastically greeted by motive power officials who have seen it, and has the best recommendations of the RAILROAD STORIES staff. Details on page 143.

* * *

Bulletin No. 32 of the Railway and Locomotive Historical Society, Inc., contains many interesting items, among them an account of a trip on the U. P. in its early days, an article on the development of the American passenger car, and another article on the early engines of the Boston & Maine and its predecessors. The latter is one of a series begun in Bulletin No. 26, and continued in Nos. 28, 29, and 31. Copies can be obtained from the Society at Baker Library, Harvard Business School, Boston, Mass., for $2 each.

Not a New Railroad, but Two Old Ones with a New Name! The Pennsylvania and the Readir New Jersey, and the Pennsy Has Re-Lettered Many of Its Engines. Photo Shows No. 6(

J. ADAMS, 2406 Emerson N., Minneapolis, Minn., sells C&NW, CB&Q, CGW, Milwaukee, Rock Island, GN, Soo Line, others, 2⅞ x 4⅞ at 9c each, 12 for $1; 2½ x 4¼ at 6c each, 20 for $1.

W. W. ADAMS, Verona, N. Dak., wants train snow scenes; "Baldwin Locomotives" for Oct., 1925—Oct., 1926, July and Oct., 1930, Jan., 1931, and Jan., 1933; 4-10-0 and 2-4-6 types, any road.

D. ANDREWS, 517 N. Main St., Chariton, Ia., has 200 CB&Q negatives. Will sell prints at 9c each.

L. G. AREND, 757 Sedam St., Cincinnati, O., has many 3¼ x 5½ photos of short lines and defunct roads, mostly 4-4-0 types, 12 for $1; 10c each plus postage for less than 5.

H. W. ARNOLD, Mississippi City, Miss., buys and trades foreign timetables. Has Siam, India, Australia, South Africa, Russia and South America.

W. R. BALDWIN, R. R. 9, Box 588, Dayton, O., has "Moody's Railroads" for 1931 at $2.50. Will send C. O. D. plus postage.

E. BALL, R. R. 3, Ayr, Ont., Canada.

E. BARLOW, 52 E. Highland Ave., Sierra Madre, Calif., trades employees' timetables for engine photos of all U. S. and Canadian roads. Also has Manual of Instruction on California Ltd. (Santa Fe), Rules for Conductors (Santa Fe), and Santa Fe Coast Lines passenger tariffs.

W. BELL, 421 Hart St., Brooklyn, N. Y.

H. BLACKWELL, R. 5, Cookeville, Tenn., paints any locomotive in oil in exchange for model railroad equipment.

D. BLAINE, 2025 Fletcher, South Pasadena, Calif.

J. BOWIE, JR., 3425 Hartford St., St. Louis, Mo., has many U. S. locomotives, 3¼ x 4¾, at 10c each. MoP or Frisco photos on order, 25c each. Makes negatives of prints for 25c.

W. D. BOWMAN, 165 S. 7th St., Zanesville, O., sells "Official Guides" Jan., 1926—June, 1929, at $1 each postpaid. "Railroad Man's" for Jan., 1912, 25c, Apr., July and Aug., 1933, at 15c each postpaid. Has B&O, PRR, W&LE 2-8-0 types to sell or trade. Wants all types all roads.

M. J. BUCK, 455 Dixwell Ave., New Haven, Conn., has 2¼ x 4¼ prints of Lake Champlain & Moriah No. 15; New York & Penn. Milling Co. No. 3, 10c each.

C. W. BURNS, 1314 Logan Ave. N. W., Canton, O., has "National Geographic Magazine" from Dec., 1931, to June, 1933, to trade for engine pictures.

F. D. CAIRNS, Temperance, Mich.

A. R. CHRISTMAS, 435 Grosvenor Ave., Westmount, Que., Canada, has 2½ x 4¼ negatives of D&H, CV, NYC, Rutland, CPR, CNR at 15c each; 300 prints of many roads at 3 for 25c.

L. J. CIAPPONI, 1510 98th Ave., Oakland, Calif., wants photo of Virginian triplex No. 700. Will trade photo of Amador Central No. 5 for small road engines.

E. S. COLE, 10 Berbro Ave., Upper Darby, Pa., sells 16 x 22 steel engravings of old English and Scotch locomotives at 25c each.

C. D. DAVIS, U. S. Vet. Hospital, Castle Point, N. Y., sells postcard Tuckerton, Union Transportation, PRR, Reading 15 for $1; 2¼ x 4½ New Haven, NYC, L & H, Tuckerton at 20 for 75c.

DAY CO., Yucaipa, Calif., has photos of San Francisco, Napa Valley Calistoga electric power. One print and 1 model 3 "Game of the Rails" for $1.

C. DELANO, 537 Gray Blvd., East St. Louis, Ill., sells M&O, StL&OF, and Manitou & Pikes Peak photos at 10c each or trade.

J. DEYO, Oelwein, Ia., has CGW 2-10-4 and 2-8-2 freight photos, also gas-electrics.

M. J. DIGNAN, 544 Holmes St., Youngstown, O., has 116 size prints of WM, B&O, PRR, P&LE, Erie at 7 for 25c, 30 for $1.

F. R. DIRKES, JR., 50 Robertson Rd., Lynbrook, N. Y.

H. F. DOYLE, 421 N. 10th St., Beatrice, Neb., trades engine and wreck photos. Will give Suncook Valley No. 1 to first 15 exchanging. Has UP, CB&Q and RI, Russian State 0-6-6-0 and Chile Ry. 2-8-2-2-8-2.

F. R. EMMERT, R. F. D. No. 1, Philo, O., has one set of "High School Home Study," one set of drawing instruments to trade for "Railroad Man's" and "Railroad Stories" up to Sept., 1932.

W. G. FANCHER, Morrisville, Vt.

L. N. FERGUSON, W. 1611 Tenth Ave., Spokane, Wash., will sell 40 copies of "Railroad Stories" and "Railroad Man's" of the last 3 years; one complete o-gage American Flyer model railroad to highest bidder.

R. A. GANSZ, 226 Noreg Pl., Brooklawn, N. J.

E. GLAZE, 1613 Belt St., Baltimore, Md., has 500 foreign engines and 2500 clippings of American engines to trade for North American engines, postcard size.

G. GRABILL, JR., 132 W. Home St., Westerville, O., wants to correspond with fans about starting a Columbus, O., branch of the "North American Railroad Enthusiasts." Has PRR, Big Four, N&W for sale or trade.

R. GRAHAM, 872 Union St., St. Paul, Minn., has many good, clear photos of U. S. roads, 2¾ x 4½, at 5c each. State needs.

W. L. GREENWAY, 426 N. 26 St., Louisville, Ky., wants all U. S. road photos, especially 10-wheelers.

A. G. HALE, 44 Lloyd St., Winchester, Mass., trades NE negatives for negatives of operating short lines, or trade 4 prints for one negative.

J. HARCUS, 11 Marentette Ave., Windsor, Ont., Canada.

R. E. HARNSWORTH, 55 Ellen St., E., Kitchener, Ont., Canada, will trade CNR photos and train orders for any kind of motive power; interested in Mallets and camel-backs.

J. G. T. HARRIS, 2 Marsolais Ave., Outremont, Que., Canada, has CPR engines Nos. 6600, 3639, 3737, 2537 and 3719 for sale or trade.

S. M. HAUCK, 62 Apthorp St., Wolaston, Mass., wants 2½ x 4¼ B&A photos. Buy or trade New Haven photos.

B. HAWES, Box 272, Aurora, Colo.

READERS who collect, buy, sell, exchange, or make pictures of locomotives, trains, cars, etc., are listed here as members of the International Engine Picture Club. There are no fees, no dues. Names are published in good faith, without guarantee.

A membership button is given FREE to those who send in a "Reader's Choice" coupon (page 143) and self-addressed stamped envelope. (If you live in Canada or any foreign land, enclose a loose 3c stamp from your own country instead of the envelope.) Address Engine Picture Editor, "Railroad Stories," 280 Broadway, New York City.

Due to limited space, we cannot print details here. Write to members for full information. Use 2c reply postal card or enclose stamped envelope. Do not mail anything until you are sure the other fellow wants it. And remember, nobody likes to get a letter marked "postage due," especially in foreign countries where the rate is high.

In writing abroad, enclose an "International Reply Coupon" to cover return postage. These may be obtained in any post office at 9c each.

Engine Leaflet Free

THE C. & N. W. is giving away free copies of its 4-page leaflet "The Story of the Giant Class H Locomotive," containing complete specifications and photo of its 3000 series, 4-8-4 type. Write to H. W. Frier, Chicago & North Western Ry., Room 914, Daily News Building, Chicago, Ill. Mention RAILROAD STORIES but do not write to this magazine.

HERRING STUDIO, Broadway, Hannibal, Mo., sells copies of original of old Hannibal & St. Joe engines (1865—1880) postcard, 5 x 7 or 8 x 10 sizes.

D. ING, 3350 Manitoba St., Vancouver, B. C., Canada, has "Railroad Man's" and "Railroad Stories" from Dec., 1929, to date for sale to highest bidder for lot; "Railroad Man's" Sept., 1917, and Jan., 1919; one Baldwin Catalogue (book form) and other miscellaneous technical publications to highest bidder.

R. JUHLING, 215 Emerson St., East Liberty, Pittsburgh, Pa.

R. KONSBRUCK, 4710 N. Whipple St., Chicago, Ill.

A. KREMER, 1419 Grange St., Philadelphia, Pa., has B&M, NYC, D&H, PRR, Reading, B&O, DL&W, CNJ, SP, and LV to trade.

A. F. LAMBORN, 775 N. Florence St., Springfield, O.

J. LANGEVIN, 180 Champlain St., Hull, Que., Canada, will buy Woodstock, T&P, MissC, Rutland, Pontiac & Pacific, Ottawa & Gatineau Valley, World's Fair, and Santa Fe 2-10-10-2.

H. W. LEHMAN, 112 N. Washington St., Naperville, Ill., has Ill. Midland No. 4, Lee County Central, Chesapeake Western, West Va. Midland, many other small roads at 10c each or trade for other doubleweight postcards.

E. LIENHARD, 148 E. Kenilworth Ave., Villa Park, Ill.

J. A. LINEHAN, 12 S. Warren St., Bradford, Mass., wants Virginian 2-10-10-2 and 2-8-8-8-4 photos. Would like to hear from Stephen David, formerly of Valley Stream, L. I.

LOCOMOTIVE PUBLISHING CO., LTD., 3, Amen Corner, London, E. C. 4, England, have published 2 new 28 x 13 colored prints of "The Princess Royal" and "Merchant Taylors" at 30c each. James F. Byrne, East McKeesport, Pa., is a representative for this firm.

F. McBRIDE, 612 E. 4th St., Muscatine, Ia., will trade 4 railway folders for engine pictures.

C. E. McKINNEY, 2607½ W. High St., Columbus, O.

F. P. McLEOD, 1068 Fifth St, Oakmont, Pa., will sell Lionel Steam Type Locomotive, standard gage, track, cars, and semaphore for $12.50. Has 1932 PRR calendar at 75c, PRR pictures of Horseshoe Curve and others (size 616) at 12c each.

H. McMICHAEL, R. R. 4, Box 32, Waterford, Ont., Canada, has "Baldwin Locomotives" April, 1929, to April, 1931, to highest bidder.

C. MAHONEY, Ponca, Neb., makes pen and ink drawings reasonable.

A. MATTINGLY, Stittsville, Ont., Canada, has GN, E&N, TH&B, CNR, CPR, British Columbia Electric, PGE, Alberta Northern and others for sale at 15 for $1.

W. I. MILLER, 46 Oak St., Galt, Ont., Canada, has CPR and TH&B photos. Write for list.

A. MISTHOS, 637 Cole St., San Francisco, Calif.

J. MOORE, 889 Stanford Ave., Palo Alto, Calif.

B. B. MURRAY, 839 Halsey St., Brooklyn, N. Y., buys copies of Santa Fe employees' magazines prior to June, 1929. Write before sending.

K. NEWLIN, 114 N. Arsenal Ave., Indianapolis, Ind.

K. E. NORTHROP, 101 Highland Ave., Somerville, Mass., wants "Official Guides" prior to 1918, "Railroad Stories" prior to 1931.

P. E. PARRISH, 301 W. 12 St., Charlotte, N. C., wants 2½ x 4¼ SP, EPSW, WP, D&SL, T&P, GN, C&O, CofG, FEC photos. Has Southern, SAL, CPR, CNR to trade.

P. B. PATTERSON, 2573 Cabot, Detroit, Mich., wants narrow-gage equipment. Trade.

C. E. PEARCE, JR., 2341 35 St., Long Island City, N. Y.

R. PEEPLES, 1374 W. 59 St., Cleveland, O., wants to hear from employees of the NOT&L, L&E, CSW&C and CD&M electric railways.

H. L. PETERSON, Ponca, Neb., will trade stamps for old engine pictures. Wants CB&Q snaps.

J. F. POTTS, East Coulee, Alta., Canada, has CNR and CPR 2½ x 4¼ snaps for sale at 10c or 7 for 50c, trade for UP, SP, MoP, GN and Santa Fe. Trades negatives for others of same roads.

H. L. PRATT, 227 E. Young Place, Tulsa, Okla., has FS&W, MV, Santa Fe, Frisco, RI, MoP, GN, NP, B&M and CB&Q 2½ x 4¼ prints at 10c each, 2¼ x 3¾ at 8c each or trade for good CB&Q snaps taken in Alliance, Neb., prior to 1926.

D. PRICE, Box 76, Norcross, Ga., has 116 size prints of trains in motion; roads entering Atlanta, Ga.

F. RICHARDSON, 29 Third St., West Barrington, R. I., has snaps of New Haven and B&M to trade for modern power of any road.

R. W. RICHARDSON, 66 S. Forge St., Akron, O., wants photos of mail trains and mail cars of all lines out of Chicago

RITTER PHOTO SERVICE, 757 Sedam St., Cincinnati, O., has many 3¼ x 5½ short line engine photos, 10c for list and sample, 15 for $1, 50 for $3.

E. ROSE, 1554 Newcomb Ave., San Francisco, Calif., has 2½ x 3½ snaps of Calif. State Belt RR at 10c each or 3 for 25c.

A. RYNEARSON, 219 Main St., Flemington, N. J., wants postcard photos of PRR N-15, N-25 and all western compounds of PRR, new employees' timetable of Maryland and Philadelphia divisions. Has CNJ 4-8-0 photos for sale.

J. W. SANDRIDGE, JR., Box 344, Vinton, Va., has size 116 photos of N&W and others, and employees' timetables to trade.

W. H. SANFORD, 5 Euclid Ave., Providence, R. I., has vest pocket size pictures of electric cars in northeastern U. S. at 2 for 15c. Enlargements on order.

A. A. SCHRUM, 145 Churchill Ave., Trenton, N. J., takes snaps of anything around Trenton, N. J., on order and makes any number of prints (2¾ x 4½ and postcard).

L. SCOTT, Box 2, McKenzie, Tenn., has size 116 photos for trade or 3c each. Send 10c for 3 and list.

H. R. SELOOVER, Amboy, Ill., wants public and employees' timetables.

C. V. SIMON, R. 2, Box 43, Farley, Ia., wants sideviews of CGW No. 864 and 4-4-0 types.

S. SOMMERFELD, 725 W. Roosevelt Blvd., Philadelphia, Pa., has PRR, NYC, M&P, B&O, Reading and D&H photos to trade for other U. S. roads.

G. L. STICKER, Box 234, DePue, Ill., has 116 size RI, CB&Q, CMStP&P, C&NW, NYC, IC, LS&BC, PLS&DP, C&IV, MR&SW photos at 5c each, 6 for 25c plus postage, or trade for other U. S. road. Stamp for sample and list.

B. STOPPER, 227 Highland Ave., Chester, Pa., buys all Reading engines, especially Santa Fe and Mallet types. Write.

L. SWINFORD, 990 Co. S. P. 12, Big Sun, Calif.

C. THOMAS, JR., 372 Hulton Rd., Oakmont, Pa., has Horseshoe Curve pictures in 2¼ x 3¼, 2½ x 4¼ and 3¼ x 4¼ sizes, and many PRR limited trains at 15c each.

W. S. THOMAS, 184 Dyer St., Providence, R. I., has 2½ x 4¼ photos of the 2 locomotives in the head-on collision at the Brockton, Mass., fair, at 10c each, and photo of engines after collision.

C. TIMBERS, 41 Alexander St., Toronto, Canada.

M. TOMME, Raymondville, Tex., has prints of StLSW, SP, MoP, NYC, Big 4, Houston Belt & Terminal, TRRAofStL, MKT, WBT&S, etc., to sell 2¼ x 3¼ at 5c, 2½ x 4¼ at 7c, and 3¼ x 5½ at 10c. 10c and stamp for list and sample.

F. A. WANECEK, 137 N. Tod Ave., Warren, O.

W. B WALLACE, 206 E. Queen St., Hastings, Hawkes Bay, New Zealand, wants to correspond with railroad fans all over the world.

E. WEBB, 1705 Woodlawn Ave., Logansport, Ind., has 2½ x 4¼ and 3¼ x 5½ prints of 20 different roads. Stamp for list.

A. M. WHITAKER, 1522 Jackson St., Charleston, W. Va., will buy passenger Mallets, any roads. Has many C&O, B&O, NYC and Virginian to sell or trade.

H. WILLIAMS, 4028a N. 11 St., St. Louis, Mo.

C. W. WITBECK, P. O. Box 1602, Shreveport, La., wants photos of locomotives prior to 1885, all sizes. Will sell bound volumes of "Railway Age" and "Engineering News." Write.

H. WOLTERS, 75 N. 7th St., Newark, N. J., has 2¼ x 4½ sideviews of modern locomotives of 45 roads at 7 for 50c, 16 for $1 postpaid. One print of "Royal Scot" under steam free with each order of 7 or more. Will buy negatives at 10c each. Send print for examination.

C. W. YINGLING, P. O. Box 12, Masten, Pa., has 1 snap Northumberland County Ry., 2 Sunbury & Selinsgrove Ry. and 1 Elmira Light, Heat & Power, 120 size, at 7c each or 4 for 25c. Wants Electric Railway Journals of 1926 and Brill Magazines. Write, giving numbers and prices.

Abandonments

Santa Fe, Nutt to Lake Valley, N. M., 13 miles; Colony to Yates Center, Kan., 25 miles. East Texas & Gulf, Hyatt to Wurtsbaugh, Tex., 10 miles. Florida East Coast, New Smyrna to Orange City Jct., 27 miles. Baltimore & Ohio, Laurel Furnace to Morgan Run Jct., W. Va., 1 mile. New Mexico Midland, San Antonio to Carthage, N. M., 10 miles. Norfolk & Western, Reed Jct. to Betty Baker Mines, 12 miles; Speedwell to Speedwell Jct., Va., 17 miles. Townsville, Townsville to Manson, N. C., 10 miles. Rock Island, Wallace to Rushville, Mo., 12 miles. Southern Pacific, Alamitos to Almaden, Calif., 4 miles; Zora to Orogrande, N. M., 5 miles.

Construction

The Montana-Wyoming has filed an application for an $80,000,000 loan to construct a 600-mile line from Scobey, south through Miles City, Mont., Sheridan, Casper and Rawlins, Wyoming, to Craig, Colo.

First Out for Next Month:

Two Great Engine Service Stories by Men Who Know the Railroad

"The Engine He Loved"

By FRANK L. PACKARD

"Running Special," by John Johns

ICKEN

MODEL LOCOMOTIVES

Are used by both the Pennsylvania and the C & O Railroads at the Chicago World's Fair and average 20 miles per day.

"Performance Does Count."

ILLUSTRATED CATALOGUE 25c.

ICKEN MODEL COMPANY

21 BROAD AVENUE, PALISADES PARK, N. J.

RAILROAD STORIES — Reader's Choice

280 Broadway, New York City

Stories, features and departments I like best in the February issue are:

1.....

2.....

3.....

4.....

5.....

6.....

Name.....

Occupation.....

Address.....

● *FIRST TIME IN AMERICA* ●

RAILROAD PICTURE COLLECTORS

• Will want a colored print of •

AMERICA'S MOST POPULAR LOCOMOTIVE

A large colored picture of the New York Central's Hudson Type Locomotive, 10x26 inches in size and beautifully rendered in full colors on heavy coated paper—ideal for framing. Every railroad picture collector will want a copy of this print of one of America's most popular locomotives. The mechanical detail is carefully preserved throughout the picture, and it will be of particular interest to locomotive model builders. A descriptive folder giving a brief history with the specifications of the locomotive will be included with each picture. This is the first of a series of colored pictures of locomotives, produced with the cooperation of the railroads.

This picture sells for seventy-five cents, postpaid. ($1.00 Canada), and will be sent promptly in mailing tube on receipt of a P. O. money order or cash. No stamps accepted. Satisfaction guaranteed.

H. O. BAILEY, Studios

• 811 Cherry Street Philadelphia, Pa. •

Countless Thrills! Great Sport! Valuable Instruction!

Building and Flying this 6 ft. MONOCOUPE

Watch it take off—zoom up . . up

and after a beautiful flight, come down to a perfect three-point landing. As many thrills as if you, yourself, were in the plane at the controls. A true-to-scale, life-like model of a famous record-breaking plane. Fun for young or old . . . for beginners or experienced model builders.

Complete Kit $5 SHIPPING CHARGES COLLECT

GUARANTEED TO FLY 500 FEET when built and flown according to instructions. Everything included to the last detail to complete and fly the model. Kit also includes full size plans, stout rubber-band motor, and correct (black and yellow) colors. Wingspan from tip to tip, 6 ft.; Length 43 in.; Weight 12 oz.

At Leading Dept. Stores or Order Direct for Immediate Delivery

Send for Free 1934 Catalog

SCIENTIFIC MODEL AIRPLANE CO., 277 Halsey St., Dept. R. Newark N. J.

Help Your Kidneys

Don't Take Drastic Drugs

You have 9 million tiny tubes or filters in your Kidneys, which are at work night and day cleaning out Acids and poisonous wastes and purifying your blood, which circulates through your kidneys 200 times an hour. So it's no wonder that poorly functioning Kidneys may be the real cause of feeling tired, run-down, nervous, Getting Up Nights, Rheumatic Pains and other troubles.

Nearly everyone is likely to suffer from poorly functioning Kidneys at times because modern foods and drinks, weather changes, exposure, colds, nervous strain, worry and over-work often place an extra heavy load on the Kidneys.

But when your Kidneys need help, don't take chances with drastic or irritating drugs. Be careful. If poorly functioning Kidneys or Bladder make you suffer from Getting Up Nights, Leg Pains, Nervousness, Stiffness, Burning, Smarting, Itching Acidity, Rheumatic Pains, Lumbago, Loss of Vitality, Dark Circles under the eyes, or Dizziness, don't waste a minute. Try the Doctor's prescription Cystex (pronounced Siss-tex). See for yourself the amazing quickness with which it soothes, tones and cleans raw, sore irritated membranes.

Cystex is a remarkably successful prescription for poorly functioning Kidneys and Bladder. It is helping millions of sufferers, and many say that in just a day or so it helped them sleep like a baby, brought new strength and energy, eased rheumatic pains and stiffness—made them feel years younger. Cystex starts circulating through the system in 15 minutes, helping the Kidneys in their work of cleaning out the blood and removing poisonous acids and wastes in the system. It does its work quickly and positively but does not contain any dopes, narcotics or habit-forming drugs. The formula is in every package.

Because of its amazing and almost world-wide success, the Doctor's Prescription known as Cystex, (pronounced Siss-tex) is offered to sufferers of poor Kidney and Bladder functions under the fair-play guarantee to fix you up to your complete satisfaction or money back on return of empty package. It's only 3c a dose. Ask your druggist for Cystex today and see for yourself how much younger, stronger and better you can feel by simply cleaning out your Kidneys. Cystex must do the work or cost you nothing.

City Health Doctor Praises Cystex

Doctors and druggists everywhere approve of the prescription Cystex because of its splendid ingredients and quick action. For instance, Dr. W. R. George, graduate Medical Dept., University of Indiana, former Health Commissioner of Indianapolis, and Medical Director for insurance company 10 years, recently wrote the following letter:

Dr. W. R. George

"There is little question but what properly functioning Kidney and Bladder organs are vital to the health. Insufficient Kidney excretions are the cause of much needless suffering with aching back, weakness, painful joints and rheumatic pains, headaches and a general run-down, exhausted body. This condition also interferes with normal rest at night by causing the sufferer to rise frequently for relief, and results in painful excretion, itching, smarting and burning. I am of the opinion that Cystex definitely corrects frequent causes (poor kidney functions) of such conditions and I have actually prescribed in my own practice for many years past the same ingredients contained in your formula. Cystex not only exerts a splendid influence in flushing poisons from the urinary tract, but also has an antiseptic action and assists in freeing the blood of retained toxins. Believing as I do that so meritorious a product deserves the endorsement of the Medical Profession, I am happy indeed to lend my name and photograph for your use in advertising Cystex." Signed W. R. George, M. D.

FREE PLAPAO FOR RUPTURE

A remedial factor in system—Stuart's Plapao-Pads—that has proven amazingly effective. Patentably different from trusses. No straps, buckles or springs attached. Easy to apply — inexpensive. Plapao Co., 70 Stuart Building, St. Louis, Mo., is sending FREE Plapao to all who write now.

GREW HAIR ONE INCH

Mr. W. E. Andrews, Franklin, Pa., writes:

"I used 2 bottles of Japanese Oil and succeeded in growing hair one inch long on my bald spots."

JAPANESE OIL, the antiseptic counter-irritant, is used by thousands for baldness, falling hair, loose dandruff and scalp itch. Price 60c. Economy size, $1. All druggists. FREE booklet, "Truth About the Hair"—write

National Remedy Co., Dept. MS, 56 W. 45th St., N. Y.

NO JOKE TO BE DEAF

—EVERY DEAF PERSON KNOWS THAT

George P. Way made himself hear, after being deaf for 25 years, with Artificial Ear Drums—his own invention. He wore them day and night. They stopped head noises and ringing ears. They are invisible and perfectly comfortable. No one sees them. Write for his true story, "How I Got Deaf and Made Myself Hear." Also booklet on Deafness. Address

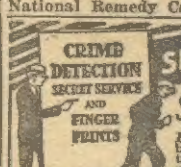
Artificial Ear Drum

George P. Way, Inc., 736 Hofmann Building, Detroit, Michigan

PILES DON'T BE CUT

Until You Try This Wonderful Treatment

for pile suffering. If you have piles in any form write for a FREE sample of Page's Pile Tablets and you will bless the day that you read this. Write today. E. R. Page Co., 2281-D Page Bldg., Marshall, Mich.



SECRET SERVICE BOOK FREE

Sent For 30 Days Reading

No Money Down—Actual Crime Cases—

If You Act Quick!—We will send you this stirring book on Crime Detection, Secret Service and Identification Work for 30 days free reading. Send no money. If you decide to keep it then send only $1.00. If not, return it. WRITE TODAY. Not sent to boys under 17 years of age.

T. G. Cooke, Book Dept. 11-41 1920 Sunnyside Ave., Chicago

Men Wanted at Once

Make Money Calling on Stores

New occupation. Pays big money at once without investment. Introduce sensational new line 5c and 10c necessities to stores. Self sellers. Permanent repeat business easy. Experience unnecessary. Start free. Write

PRO-CO-PAX, Dept. 28-R 1958 S. Troy, Chicago